THE SCHOOL REVIEW

A JOURNAL OF SECONDARY EDUCATION

VOLUME X
NUMBER 2

FEBRUARY, 1902

WHOLE
NUMBER 92

THE SCHOOL SYSTEM OF ONTARIO

THE people of Ontario are justly proud of the efforts which they have made on behalf of education; save perhaps in the early days of Massachusetts, I know of no new country where the necessity of a sound education for all citizens has been so promptly recognzied, or where greater sacrifices have been made to attain it. Less than one hundred years ago our educational system was represented by an occasional log schoolhouse, wherein a teacher, usually a retired soldier, intellectually a scant day's march ahead of his pupils, beat into them the three R's by methods of a most *à posteriori* character. Now in every city and village, in every rural township, a well-built, well-endowed, and well-organized school is within easy reach of every boy and girl; normal schools and colleges see to the professional attainments of the teacher; a strong central department of education keeps watch over the whole mechanism, while yet allowing a measure of freedom to local bodies. Yet in looking below the surface, we find a very wide-spread feeling of dissatisfaction with this fair-seeming show. What then is this system, claimed by its official admirers to be "the best educational system in the world," yet one with which nobody but its official admirers seems satisfied?

The Ontario school system dates from an act of the Ontario legislature in 1846, but did not take its final shape until after the

confederation of the scattered provinces in 1867. By the British North America Act of that year the care of education was entrusted wholly to the provinces, save that the Dominion Parliament was given power to introduce remedial legislation if any province infringed upon rights enjoyed by a minority previous to the year of confederation. Such legislation was introduced in the year 1896 to redress grievances under which the Roman Catholics of Manitoba were said to be laboring, but was eventually withdrawn owing to the bitterness of opposition encountered. At present a ladder of learning leads from the kindergarten to the elementary or public school, which is by statute free to all, and which educates pupils up to the age of fourteen, through the secondary or high school, to the university. After a violent controversy the principle of separate public schools for Roman Catholics was fully recognized; every ratepayer has a right to enroll himself as a supporter either of the public or of the separate school, and to the one chosen his taxes are assigned; provision is also made for Protestant separate schools in Roman Catholic neighborhoods. An idea has recently been broached to affiliate with the public schools such of our numerous private schools as wish to so do, making them subject to government inspection, insisting on the use of government text-books, compelling the teachers to reach a certain standard, and giving to them a certain proportion of the rates. The scheme has not a little to recommend it, and has influential backers, though it is hampered by the fear which many feel that it might end in bringing into our midst the horrors of the English "voluntary school" controversy. Every school opens daily with the reading of the Holy Scriptures, which must be done without comment, and closes with the Lord's Prayer. The clergy of the different denominations are allowed to come for one hour a week each, at the conclusion of the day's work, and give religious instruction to the pupils of their church. As in the eastern part of Ontario, owing to the influence of the adjacent province of Quebec, the population is mainly French; and as in the west large settlements of Germans are found, a series of French-English and German-English text-books has been prepared,

which are used under regulations that prevent English being placed at a disadvantage. In 1899 the population of Ontario was approximately 2,180,000; there were 119 kindergartens, with 11,262 pupils under six years of age; the number of public-school children in attendance was 429,227; the number of public schools, 5,654; of Roman Catholic separate schools, 352; of Protestant separate schools, 8. The funds necessary are raised by a local rate, to which is added a government grant, varying with the locality, being naturally larger in the more thinly settled parts of the province. The high schools and collegiate institutes[1] receive the pupil at the age of twelve to fourteen, and carry him as far as the end of the first year's work in the university. Fees are charged in most cases, but are as a rule small, and tend to decrease; indeed a movement of some strength is on foot to do away with them altogether. There were in Ontario in 1899, ninety-three high schools and thirty-seven collegiate institutes, with 22,460 pupils. These are also supported by a local rate, assisted by a government grant, the amount of which is arrived at by a somewhat intricate calculation, based on condition of premises, amount of equipment, number of masters, etc., and usually amounting to about 10 per cent. of the total expenditure.

The general control is vested in a minister of education, who is a member of the provincial cabinet, elected by the people, responsible to the legislature, and retiring if not reëlected, or if his party is defeated. This experiment, dating from 1876, previous to which there was a non-partisan superintendent of education, is obviously a risky one, though owing to the long tenure of office in Ontario by the Liberal party, lasting from 1871 to the present day, some of the dangers are as yet theoretical. It enables the minister personally to conduct his bills through the House, whereas those of an outsider would assuredly be mangled; and while political control is responsible for a number of evils, some of which will appear later, there has been on the whole a

[1] A collegiate institute is simply a more adequately equipped high school, a certain number of whose staff hold specialist certificates, so that in consequence it receives a larger grant.

laudable endeavor by both parties to deal with the main problems of education in an impartial spirit. All examiners are chosen by an educational council of twelve, half of whom are appointed by the Provincial University and half by the lieutenant governor in council, *i. e.*, by the party in power, or, as a matter of fact, by the minister himself. These latter six usually, though not necessarily, comprise one representative from each of the four independent universities within the province. Within the last year the members of the council have been appointed "a consultative committee to confer with the minister on such matters as he may, from time to time, submit to them," but it is too early to say what will be the results of this measure, or whether they will amount to anything more than the occasional use of the council as a political red-herring.

The education department has its headquarters at Toronto, the provincial capital, and controls very strictly the general educational policy. Till about 1899 the power of the department steadily grew at the expense of the local boards, but a slight movement in the other direction is at present perceptible. The local trustees have a large measure of control in the matter of finance, have absolute power to appoint or dismiss teachers, and may even, with caution, introduce important experiments into their course. Thus in the collegiate institute in Kingston a well-equipped department of manual training has recently been established, to aid which the central authority gave a grant of nearly 50 per cent. of the total cost of maintenance. There is no doubt, however, that a greater measure of flexibility should be introduced, and the principle of local control extended; the tendency of a central bureau to aggrandize itself is one which must be perpetually watched. There has been a tendency to introduce changes into the general curriculum without giving them sufficient trial in one or two selected municipalities. While we must pity the unhappy minister, exposed to the constant attacks of benevolent but belligerent theorists, many of them voters in his own constituency, the plan pursued at Kingston of generously aiding an experiment and watching its success is much better than that of inflicting upon the public schools of a

whole province such subjects as "agriculture," exclusively from a text-book, and "physiology and temperance."

The course of study for public schools is divided into five forms, and covers a period of about nine years. The subjects to be taken up in each form are laid down by the department, and the individual teacher is strictly forbidden to vary either the subjects taught, the time devoted to them, or the text-books employed. The fifth form is now dying out, save in the larger cities, and pupils pass into the high schools from Form IV. On the other hand, a very important departure was inaugurated by the minister in 1896, when "continuation classes," aided by a government grant, were established in a number of public schools which have no high school near them. These are now held in 441 localities, and do practically the same work as is done in Form I of the high school, including, if the locality wishes, Latin, chemistry, and physics. Some are even going on to higher work, and if kept under the control of competent teachers, will be most beneficial in their influence. They are in almost every case the pride of the municipality and, as they are in direct connection with the public school, are not exposed to any of the class jealousy with which the high school is in some instances regarded.

The public school problem is much more simple than that of the secondary school, and has received far less attention. The chief defect in Ontario is that the pupil is kept too long at the elements. Two children may enter a school at the age of five, and in eight years one may, without exaggeration, be fit to teach the other; yet with us both will have done the same work, and the teacher will have been unable to give the bright pupil anything to keep his brain at work. The obvious remedy is to have more frequent promotions, and this is now being tried in some localities. The question of at least one modern language in public schools is a vexed one; even if it be decided in the negative, we should certainly gain largely by a system of more frequent promotions, keeping the dullard in the public school as long as at present, while allowing the bright boy to enter the high school and begin more advanced studies at the age of ten or eleven.

Some of the subjects also are of doubtful educational value, such as "physiology and temperance," at least as taught in Ontario. The pupil learns that even moderate drinking leads to "giddiness and buzzing in the head, laboured and wheezy breathing, a dull and blotchy appearance of the skin," and many other such fearful wildfowl; that the use of tobacco brings about "unsteadiness of the hand, relaxation of the muscles, want of firmness in the gait," that it "numbs the sense of taste and takes away the appetite." As a result, he looks at his father, uncle, or an elder brother, whom he knows to take an occasional glass of beer or even a post-prandial cigar, and arrives at conclusions very disrespectful either to his father, or more often to the text-book, in neither case a consummation to be wished. Sometimes again, a morbid and prurient curiosity is excited. Sometimes he does not even get so far. My own experience has always led me to doubt the value of this study for boys so young. After an elaborate course, profusely illustrated by colored diagrams, showing the dire effects of moderate drinking, and the absolutely fatal results of alcoholic excess, my chum and I, then rather bright boys of twelve, arrived at the conclusion that the picture of the stomach of the moderate drinker was much the prettiest, and that the attainment of such a stomach would be our object when we reached maturity.

The problem of the high school is more complex, and our Ontario solution has recently come in for a good deal of sharp criticism from various quarters, among others from the president of the Provincial University, whose strictures are perhaps a little ungracious in view of the fact that the influence of the institution of which he is the head has been one of the chief factors in causing the developments which he so vigorously assails. Our secondary schools were originally opened to provide well-trained matriculants for the provincial universities. The next task which fell upon them was that of giving a literary training to teachers, who were needed in large numbers for the public and high schools of the province (N. B.—I use high school as equivalent to high school and collegiate institute); while normal schools and colleges were early founded to give a professional training.

By a wise economy of effort and of finances, the task of providing literary and scientific knowledge devolved upon the high school. Recognizing the claims of boys who purposed entering business, a commercial side was organized with the object of giving instruction in such subjects as bookkeeping and typewriting, while at the same time not neglecting the training of the young citizen in the elements of culture and civic responsibility. The physical training of both boys and girls is well looked after, all details of sanitation, ventilation and school architecture receive the careful consideration of experts, special truant officers enforce attendance; at first sight all seems fair. So complete was "the ladder of learning," so well were the various departments organized, so just seemed the balance maintained, especially with regard to finance and the more mechanical details of school life, that in 1893 special diplomas were given to the educational exhibit of the department by the World's Columbian Exposition of the United States.

The high school is divided into four forms, in each of which the pupil usually remains for one year. On leaving the third form, he is supposed to be prepared for university matriculation, the work of the fourth form corresponding to that done in the first year at the university, thus enabling prospective students to take their university course in three years, and giving the many others at least a glimpse into more advanced work. To trace the interaction of the demands of the teacher-in-training and of the university, together with the action on both of educational reformers in rich variety and with varying degrees of influence, would carry me too far. The provincial universities, giving at matriculation a liberal choice of options, have thrown a burden upon the high school which it is becoming more and more unable to bear. Organized at a time when the matriculation standard was simple and unvarying, all its traditions as well as the natural pride both of the teacher and of the municipality lead it to try to teach everything, with the result that in the smaller schools the arrangement of a time table is becoming more and more impossible, and the masters are alternately overworked and idle, as the hour is given to a popular or unpopular option.

This is especially noticeable in the case of the two-masters' and some three-masters' high schools. Here again we may learn from what is done in Massachusetts. There every center of five hundred families and over must maintain a high school; but, when such centers cannot give a full curriculum, they must pay for pupils requiring advanced subjects, not only the tuition fees at another suitable center, but the cost of transportation as well. The same obligation rests upon towns with a smaller population. . . . . A year or so ago I inspected a high school with only one pupil in Form IV, and about forty in each of the lower forms. On the basis of the teachers' salaries alone, this pupil cost $700, and the provision for the other pupils was quite insufficient. It would have been far better financially and educationally for all concerned had the locality paid this pupil's board bill and school fees at another school (Report to the department of John Seath, B. A., high school inspector, Toronto, 1900).[1]

No educational system will ever produce perfect results until every pupil is clever, good natured, and ambitious, and has allotted to his especial use an omniscient teacher of unfailing tact and energy. Short of this we may at least demand of our system that it should be not only living, but also in living and harmonious relation with the body politic. A system working along lines different from those along which the other members are developing bids fair to become a cancer, living indeed, but out of harmony with and contrary to, the normal physical functions. Certain tendencies in our schools warrant us, if not in applying this criticism, at least in being on our guard against

[1] The Provincial University, situated at Toronto, controls not only its own matriculation examination, but also those of the denominational and independent universities in the province, which are forced to follow its lead.

Previous to 1885, the examination comprised the English subjects, Latin, Greek, and mathematics. In that year physics and chemistry were made an option at the request of the Ontario Teachers' Association, and French and German combined were made equivalent to Greek. In 1890, the English subjects, mathematics and Latin, remained compulsory, but instead of two choices four were allowed: (*a*) Greek, (*b*) French and German, (*c*) French and science, (*d*) German and science. In 1895, in response to the claims of the Classical Association of the province, who saw that under this arrangement Greek was doomed to suffer, a modern language was added to the compulsory subjects, and the options were reduced to two; (*a*) Greek, (*b*) the other modern language with science. This did not suit the popular taste, and in 1900 the compulsory modern language was abandoned, and the options were increased to six; any two of (*a*) Greek, (*b*) French, (*c*) German, (*d*) science. As an immediate result of this, the number of pupils studying Greek, which had from 1895 to 1900 remained stationary at about 6 per cent. of the total number in attendance, has dropped at once to about 3½ per cent., 800 out of 22,460.

the dangers to which it points. Yet, curiously enough, one of our most obvious weak points arises from a short-sighted attempt to be in conformity with local conditions, a narrow patriotism, which, if not exactly "the last refuge of a scoundrel," is at least suspiciously like the artful dodge of a political vote catcher. The department has decreed that our text-books shall be almost wholly drawn up by inhabitants of the province, and if possible by teachers in active service. It surely stands to reason that a new country with a comparatively small learned class does not do wisely in rejecting the labors of Britain and the United States. No text-book may be used in any of the provincial schools save those authorized by the department, and as only one is authorized in each subject, its preparation and sale becomes a distinct prize. The whisper goes that in more than one instance the task has been given to a friend as a reward for party service, and whether this be so or not, the result in some cases justifies the accusation. Some of the books are excellent, such as those in classics; others are fair, such as those in mathematics; others, again, such as those in history and spelling, could not well be worse. In some cases new books have been introduced for reasons unknown to all save the politician, while in others fear of the expense entailed upon the country voter by the purchase of new text-books, has kept the old ones in use long after they should have been superseded.

But the main problem lies far deeper. In the early days it was above all things necessary to train teachers for the community. But we have gone on turning out teachers and matriculants till we are almost ludicrously over-stocked. For a recent vacancy in moderns at a salary of $700 per year, there were eighty-three applicants, of whom the great majority were university graduates, many of them men with first-class honors in their department. The case is even worse in the public schools. A teacher-in-training plucked is a voter lost, and the standard for certificates has been made so low that our public schools are filled with raw boys and girls who usurp the once sacred name of teacher. The result has been a lowering of salaries, which prevents teaching from becoming a profession. Not only has

the general standard of living advanced, but many a country school which formerly paid $450 to a male teacher, now gives $250 to $300 to an immature girl, and in both public and high schools the vast majority of teachers are transients who adopt the profession for a year or two as a stepping-stone to the study of law, medicine, or theology. In 1899 there were employed in the public schools of the province 2,612 men and 5,957 women, a decrease of 44 men and an increase of 148 women. As an instance of their enumeration, in the populous county of Renfrew the average salary of a male teacher for over nine months' work is $284, and of a female teacher $216 (*Report of the Minister of Education for 1900*, p. 16). There are signs, however, that this evil is gradually working its own cure, for even the boys and girls who scrape through our inadequate examination are refusing to work for this pittance, and the number of candidates has of late years shown a slight decrease. The drift of the high schools in the direction indicated is even more pronounced than at first appears. The department and the local trustees still tend to pay and to promote their teachers by results, and as results can most easily be obtained by written examinations, we are lanthorn-led by this lubber incubus. All other subjects save those leading up to an examination set by a purely external body are neglected; in the public school attention is given only to those which lead up to the high school entrance examination, the difficulty of which has also made far too great a break between the public and the high school; and as the only examinations at the end of the high-school course are those leading to the university or to a teacher's certificate, more and more attention is concentrated upon these. Those having other aims are more or less neglected, and every high-school teacher in Ontario will bear me out when I say that from two to six weeks at the end of every summer term are devoted to cramming their prospective successors. The *raison d'être* of the high-school teacher seems to be to reproduce himself, and we have apparently arrived at a new example of the infinite series, where the little fleas produce lesser fleas, and so *ad finitum*. In 1899, out of 6,067 pupils who left the high school, 1,297 had signified their intention of becoming

teachers, and as I have said, this proportion is distinctly less than was the case some years ago. In 1887, for example, Mr. Seath reported that 50 per cent. of the high-school pupils had in view the profession (one would rather say the trade) of teaching. Meanwhile, the commercial course has not been a success. Technical subjects (if I may use that much-abused word) have not as a rule been so well taught as in the business college, while literature and history have been taught in a shamefaced way which renders them almost useless. In fact the class, though at present showing a slight upward tendency, still lies under a vague stigma of social inferiority which for years has blighted its efforts.

The result of all this is that the attendance is much less than it should be, and has shown a steady decrease ever since 1895, though this may be offset by the large numbers who now take the public school continuation classes. Massachusetts, with practically the same population as Ontario, has 40,000 high-school scholars as against 22,460 in Ontario. Two radical changes seem to be necessary if our system, outwardly so fair, is not to get out of touch with modern life. If each high school is to teach everything, then the universities must greatly curtail their list of options at matriculation; if the options are to be retained, and indeed increased in accordance with our present tendency, then certain schools must confine themselves to certain aspects of work, as is done in many of the eastern states, and as is recommended in Mr. Seath's report. More important still, the high school must cut loose from the university, and assume a more independent attitude. The metaphor of the "ladder of learning" has done harm by leading us to think that the lower rungs are of value only as steps to the higher. The vast mass of our citizens must get their education (in the sense of definite lessons set and learnt) in the primary and secondary schools. At present, we turn out teachers and matriculants, not the two most important classes in a new community. Those who are to be the captains of industry, the stockbrokers, miners, engineers, wholesale and retail men of business, instead of being given a course which would fit them

for a business career, and at the same time give them a training in the rudiments of literature and of history, must be content either with the narrow training of the business college or with a course designed to suit the needs of pupils who intend to become teachers or to enroll themselves in one of the learned professions, and which they enter upon with a not unnatural lack of enthusiasm.

There is no panacea for these various ills; many remedies must be tried before we find our way out of the jungle of conflicting theories and interests in which we are at present wandering; a change must come both in the personnel of the teachers, and in the methods by which they are trained. But this is a subject which would demand an article in itself, and I have wandered too far already. The friend of the department will perhaps say that, reversing the rôle of Balaam, "I came to bless, and lo! I have cursed it altogether." The captious critic may declare that after an impartial survey our vaunted system has turned out to be little better than a congeries of systematized fads. I hope that neither is correct; even now, when its weak points are becoming so manifest, we must never forget what it has done for us. It is a system, and any system, however defective, is better than chaos and the rule of individual caprice, even when the chaos is lit up, as it is in some of our private schools, with occasional flashes of brilliance. Satan in Milton's poem found a systematized hell not unendurable, but even the arch-fiend himself could not exist in the realms of "Chaos and Old Night." Many critics do not give due credit to our Ontario system for the control which it exercises over the vagaries of the individual. While it may to a certain extent clip the wings of an occasional "Domsie," it affords a safe and not unhealthy pathway to many a hardworking teacher of average capacity who would otherwise mire both himself and his pupils in all sorts of morasses of his own devising. The epithet "mechanical" has been applied in cases before now where "orderly and systematic" would be more suitable. After all, there are worse faults in teaching than mechanism, which, even when pushed to excess, is only the substitute of the

average teacher for that "natural law in the spiritual world," which must be the basis of the work of his most inspired brother. But our Ontario system has merits much more positive, of which, I hope, I have not been unmindful. It has raised the standard of teaching, even if much remains to be done; it has put education within the reach of the humblest child in the province, and has solved on broad and statesmanlike lines difficulties of race, religion, and creed. Now that revision seems necessary, we may surely trust that as in the early days men were found able to organize so complete a system, so now their successors will be equal to the task of bringing it more into conformity with the advancing and changing needs of the province.

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PSYCHOLOGY IN SECONDARY SCHOOLS

PSYCHOLOGY appears in the curricula of many secondary schools, notably in academies which pretend to give a general intellectual outfit and in such public high schools for girls as assume in part the function of training schools for teachers. It appears in the former case in general as a short course taught from a book by a teacher who knows little more about the subject than the book's contents. In the latter case the course may be longer, but its nature and administration are equally narrow. Here and there a gifted teacher makes the course dignified and useful.

No one has seriously attempted to bring about general improvement in these courses or to urge the introduction of proper work in psychology into the secondary schools in general or to define the position which psychology ought to take in their curricula. This is due partly to the general disregard of philosophical studies by American secondary schools, partly to the mere newness of psychology as an empirical study even in the colleges, and partly to the failure of the type of courses mentioned above to equal the other work of the schools in effectiveness from the point of view of teachers or in attractiveness from the point of view of society. The disregard of the subjective sciences in general seems to be conventional rather than rational, for the French system emphasizes them. The failure of the courses given seems to have no reference to the fitness of the subject itself, but only to be one instance of the general failure of the short courses in science, history, or literature, by means of which we have been giving inferior students a chance to get a diploma for three or four years of mnemonic experiments.

It is a thankless task to propose a new subject for the secondary school lists. And I am fully convinced that the probability of getting good teachers and the adaptation of the

subject-matter to immature and uninformed minds should be important considerations to the organizer of a curriculum. We cannot, from a theoretical investigation of the needs of boys and girls in life today, decide as to the propriety of any change in the course of study in any school. I think that at present even the most ardent psychologists would advise most school officers to get along without a course in psychology and to drop the courses they have. On the other hand, schools that decide to have a reputable course and to pay for it may soon, if not at once, find efficient teachers, scientific and teachable manuals, convenient apparatus for experimental work, and dignity and appreciation for the course. Only when we give to psychology the same chance we are giving in our best schools to the other sciences shall we see whether or not it is a profitable study that will survive.

It seems worth while to ask what might be done with such a course, especially since it so happens that the latest developments of psychology are perhaps the best fitted to engage the attention of young students, and that the courses actually given in high schools bear almost no relation to the present status of the science.

Speaking roughly, a course in psychology in a high school will either present descriptions and definitions of mental states in some such way, for instance, as Sully's *Outlines of Psychology* does, or will consist of a college course in experimental psychology much diluted, or of a semi-physiological course dealing with those aspects of human activity which involve consciousness, or of a general course about human nature distinguished from the opinions of poets, novelists, preachers and everyday folks, by a scientific method and orderly progress. There may, of course, be combinations of these different types. The first two are more likely to be the types chosen, but the last two seem to me to be worthy of consideration and to show promise of being the types that will eventually prevail.

The first course mentioned would amount to a more or less truthful inventory of our feelings, their registration under various long names, and definition in highly abstract phrases in a

sort of game of comparison, classification, etc. This type of work we should not wish to install in the high school in any subject. It is an unfortunate fact that nomenclature, definitions and endless divisions into species make a teachable book and delude teachers and students into the belief that they are solving the problems of existence. They also appeal to the classifying interest, which is likely to be strong in superior minds, and so, because they can be comprehended and learned only by capable students, delude us all into thinking that studying them makes students capable. Such a course in psychology might be a good test of intelligence, but it would not produce or increase it. The fact that so many text-books on teaching imply previous training in some such course should rather warn us against it than dispose us to disregard its obvious faults.

If, instead of attempting to strengthen the same type of course as is now given, the schools intrust the organization of new courses to college graduates recommended as fit to teach psychology, the result will be in most cases a course of the same style as the college course, but weakened and necessarily more superficial. For the majority of teachers are quite incapable of adapting themselves intelligently to new conditions and of inventing ways to realize educational aims in the face of difficulties. They will teach what they have been taught in the way they have been taught it. We shall see high-school boys and girls measuring the delicacy of sense discrimination, mixing colors, taking reaction times, noting space illusions, and so on.

This direct transfer of college courses in science into the high school has succeeded fairly well with physics and chemistry, less well with economics and the biological studies. There seem to be especial hindrances in the case of experimental psychology. At the outset it must be confessed that there is no unanimity as to the proper contents of such a course even among college teachers. What one would set up as a standard would not be accepted by the others. Moreover, the greater part of what is taught in college courses is taught, not by the experiments, but by the *teacher's interpretation of them.* Thus different classes under different instructors get different psychology even when

they have the same experiments. There are more weighty objections. The experiments of the college courses often do not repeat crucial tests of hypotheses or exemplify broad laws or principles in the way that experiments in physics and chemistry may. The experiments often comprise a few determinations of some phenomenon, real knowledge of which involves the statistical treatment of a large number of determinations. With high-school classes the few would be fewer still, and the student would really be finding out nothing, save how someone might find out something by doing the experiment in a quite different way. Moreover, the complexity of the apparatus tends to obscure the question he is trying to answer or the fact he should discover. With chronometers, color wheels, stereoscope, all forms of graphic records and of electrical methods of stimulation or registration, the mechanism conceals the psychological fact, and is often harder to understand than it. One has to repeatedly go through the process which the teacher of biology finds so troublesome in the single case of the microscope. Furthermore, individual differences, normal variability and the impossibility of convenient perfect control make it impossible to definitely criticise the student's accuracy as we can do in physical measurements. A boy who measures the weight necessary to break a standard wire, or the specific gravity of lead, and gets an inaccurate answer, can be told emphatically that he is wrong; can see that he is wrong and can do better. But when a boy finds that his partner in the laboratory can just distinguish 130 grams from 135, the instructor himself doesn't know whether the boy has been accurate or not. There is no chance to tell definitely by results whether you have done well, done better than the rest of the class, done as well as you could possibly do, and so one great motive is absent, and one great lesson in science is missed. Finally, the experiments now in vogue in college courses too often have meaning only in the light of detailed knowledge of physics and physiology. A physiologist might, indeed, claim that the experiments on sensation and perception treated merely a fraction of one division of his science, namely, the physiology of the nervous system. He might add

that this was one of its most specialized divisions, and one least fitted for uninformed students. Now it is practical folly to give a course in a high school which can be studied to advantage only by students equipped in physics and physiology. It involves too complicated a system of group electives, and is likely to force the instructor to break the continuity of the course in order to supply the external matter needed for the comprehension of some experiment. The typical experiments on sensation and perception are too specialized for a high-school course.

A modification of the ordinary course in experimental psychology thus seems ill-fitted to give a scientific view of vital facts in mental life, or to develop habits and ideals of accurate and thoughtful experimentation and observation. It seems also to be an especially hard course to administer.

The other probabilities for a secondary-school course were, I said, a course in the physiology of human behavior and a course which should try to introduce students to the scientific study of human life in all its aspects. These we may now consider.

It would be perfectly feasible for an instructor of moderate capabilities who had a class of third- or fourth-year students for a quarter of their time during a school year to teach them, largely through direct experience of the realities concerned, the following: The fact that human and animal activities (conduct or behavior as distinct from such activities as respiration, circulation, excretion, etc.) are due to a nervous system, sensitive to outside influences; the nature of end organs, muscles and the nervous apparatus connecting them; the elementary facts concerning the way that each of these functions; the physiological parallel of an act in response to an outside stimulus; of an act in response to a thought; the existence and explanation of instincts, including instinctive emotions; the simplest form of modification of behavior in the learning of animals; the presence of the same thing in man; the nature of more complicated ways of modifying behavior; the mental factors concerned in the latter; the law of habit in the nervous system; its illustration in automatic activities, in perceptions and illusions, in the association of ideas and memory, in the tendency of ideas to issue in movement, in

suggestion and inhibition; and a number of details concerning our sensitivity to outside stimuli, the coördination, accuracy and force of our movements, and the effects of inborn capacity, practice, fatigue, etc.

The course would present, through a study of actual facts, the broad principles concerning our adaptations of our movements to the situations we meet. Such a course could be given independently, but would still fit in well with work in physiology or zoölogy. It would have the advantages of appealing to the interests in action, use and adaptation; of supplying the student with the means of intelligent observation and thought concerning his own daily life. One is tempted to say that it would form a natural preliminary to all the humanistic sciences. In so far as any high-school course could share in so high-sounding an aim, it would.

The other possibility to be considered is a course which should not attempt to give anything like a systematic account of the elementary facts of psychology, but should take up a number of concrete aspects of human thought or conduct and try to teach young students to study them scientifically. Such a course would have the disciplinary value of habituating students to better ways of thinking and learning about human nature, and might arouse a desirable zeal for the explanation of human behavior which would lead them later to take a systematic course. Its efficiency would, however, imply rather superior gifts in the instructor in charge.

Concrete examples may show better what such a course might do. Suppose, for instance, that the instructor set to the class the problem of finding out how they differed in quickness, accuracy, memory, etc., in short, all they could find out concerning their mental powers, and let the work consist of numerous tests. The students might work out results and correlations. If each test was repeated enough times to get an accurate mean, results on the correlation of abilities in twenty or thirty people would have real value.

In this way students could study experimentally, mostly by class tests, the delicacy of discrimination in different fields,

color vision, acuteness of vision, memory with different sorts of data, the rate and accuracy of perception with different sorts of data, the rate and accuracy of association, spontaneous and controlled, the force and rate and accuracy of movements of all sorts—attention, fatigue, practice, etc. They would start out with the question, "How well can I do a certain performance?" They would be led to ask, "Why do I do differently at different times?" "What powers in me go together?" "Am I more like my own parents than someone else's?" "Why do people differ in these matters?" "Why can I do better with practice?" "What are the factors involved in all these tests and in my school work and other thinking and action?" They would get or be given answers to these and other similar questions; they could learn accuracy in experiment and statistical treatment; they could learn to doubt and inquire; they could be led later to study more or less of a systematic course in human behavior, such as was previously outlined.

Suppose the course took up the question, "What are the differences between your thinking and that of a dog or a cat?" The class could be led to knowledge of the facts of instinct, the animal method of learning, its prevalence in much of their own learning, the function of thoughts and feelings in the animal kingdom, the nervous basis at the bottom of animal and human behavior. Experiments in teaching animals, observation of animals and young children, experiments and observations of their own learning would, of course, be made. In a similar way practice, fatigue, memory, suggestion, habit, and other topics might afford an opportunity for observation, experiment and reading on the basis of nothing more than common-sense knowledge of psychological facts and terms, and might lead to definite study of a few psychological principles. A part of the work of the course should be the presentation of topics for study and methods of studying them by the students, the criticism of these by class and instructor, and the study of selected ones.

The disciplinary value of such a course would be great, for it would teach the student good habits of thought about matters

which he would otherwise settle by guess work or the acceptance of conventional opinion. The problems, too, would be more comparable to those of his real life than are the problems of physics, or chemistry, or biology, or the common laboratory psychology, and consequently the scientific method he learned in the course would be more likely to pass over to his general experience. If in any course in a high school we could bring students to realize that the way to really learn about things is not to argue about them or believe what some one says, but to examine them and notice exactly what happens, to realize also that this can be done with any matter in the universe that is a fact at all, and to get into the habit of trying to do it; that course should be put in the curriculum regardless of what else it taught or failed to teach.

The experienced teacher will regard as faults of such a course besides its requirements of teachers, the lack of system, of sameness in the material, of divisibility into handy lessons and tasks, the danger that pupils will miss the scientific treatment and general principles which require some personal strain and get only the concrete details, and the unfamiliarity of such work to the pupils. These are faults in the sense that they will prevent the course from having that appearance of having accomplished a definite clean-cut piece of work which distinguishes courses in mathematics and languages. But it is a question whether the artificial arrangement of school work into small pellets to be taken in a regular order does not divorce the thinking done in the schools from all the other thinking the scholar does; whether the limitation of mental activity to translating sentences, learning elementary mathematics, remembering facts in history, science, and literature, writing themes and performing simple experiments in science, does not make the student's mind incapable of serious application in many fields; whether the very unfamiliarity of the work I have described is not evidence that it is needed. Pedagogues may admire the regular sequence of achievements of the Latin or mathematics class through its four years, but the real student of education will wonder what comes of it all. There may even be someone willing to declare that

the curse of school practice is its zeal for the teachable, for the course where you can count progress by pages, sums or records of experiments.

Of any course we must not expect too much. Most people are not thinkers or even good learners, and would not be under any provocation. I have throughout said "could" and "may" and "might" to show that all a course in psychology should be asked to do is to provide an adequate stimulus to call forth any capacities that may by good fortune be present in the class, and suitable encouragement to their exercise.

So much for the possible subject-matter of a secondary school course in psychology. If any course is offered, it should provide for at the least, a second year's work. It is utterly absurd to demand a quarter or more of a student's effort for four years for the study of a single language, and to discredit other subjects because in a quarter or even an eighth of that time the student fails to accomplish much. How much is accomplished in the first year of Greek? Is Greek a broader or more intricate subject than biology or history or psychology? There is no reason that I can discover why a student should spend more time on Latin or Greek or French or German or mathematics, than on physics or chemistry or botany or zoology or history or psychology or economics or geography, save the offensive one that he can get nothing out of the former subjects save at great expense of time, whereas he can out of the latter Any new course put on the high school program in competition with the older subjects should be given an amount of time in proportion to its real importance.

This article has tacitly presupposed that a course in psychology in a secondary school should disregard any possibility of later collegiate training. Not that we should cease to make high-school work in a measure a preparation for future study. We ought still to cherish the forlorn hope that we may lead high-school graduates to continue to study for discipline, culture and enjoyment. But we should plan a course with no conscious or unconscious intentions of fitting the student for the intellectual career we ourselves led in college. For a high

school course in psychology to prepare students for college work in psychology is theoretically about as sensible an aim as for an American to spend his time educating himself for foreign citizenship. And no one has suggested any practical justification for it.

In closing I may venture a prophecy that a course in the scientific study of human behavior will probably be the last to enter our secondary schools. It is a perverse tendency of human nature to neglect and postpone the scientific study of any topic in proportion to its importance to human welfare. Those matters in connection with which the exigencies of survival have forced us to adopt some habits or opinions have been the last and least investigated rationally. Men gave serious thought to superstitions before facts, to astronomy before geology, to grammar before rhetoric, to curative before preventive medicine, to the history of wars before the history of institutions, to the social life of ants and bees and wasps before that of men. Because we have had since geologic time to work out by trial and error certain habits of getting along with human beings, we have postponed scientific study of them till now. And I verily believe that we may have to wait for such study in the high schools until we have had courses in entomology, Anglo-Saxon, counterpoint, the history of fancy work and tatting, and Latin epigraphy.

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COMMERCIAL EDUCATION IN GERMANY AND IN ENGLAND.

A CAREFUL comparison of the circumstances and conditions which are favorable and unfavorable to the maintenance of our commercial position, reveals the fact that it is mainly in preliminary training and in the intellectual and moral qualities that result from such training, that we are inferior to our most formidable rivals . . . . All the advantages of an earlier start, of longer experience, of the habit of large business, and acquaintance with great affairs, are ours. So long as we had to compete with people who depended, like ourselves, upon natural gifts and rule of thumb experience, we had a marked advantage in the industrial struggle. It is only since other countries have begun to educate and train their people upon careful thought and on scientific principles, that their rivalry has begun to turn to our disadvantage. Just as undisciplined courage proves in the long run of no avail against disciplined forces in the field, so in industrial warfare, I fear, untutored natural gifts must eventually succumb to the superiority of careful professional training. Education is becoming, indeed, for us a question of vital and imperial importance.[1]

These words put into a nutshell what has been said during the last twenty years by Englishmen of various political views and social rank. England saw her commercial supremacy menaced by a nation whose schools were believed to have won for her success alike in the field of battle and in the market of the world. Hence the conclusion arrived at by many Englishmen that the only way to save their commercial position lay in the establishing of commercial schools. England had one advantage in doing so: She started last and had an opportunity of turning into profit the experience of all other nations. She had a burning desire to do so. Various royal commissions and private individuals were sent to the continent, to visit schools of all kinds and to publish comprehensive reports.

It was only natural that German commercial schools were studied with care. Nevertheless, no Englishman tried to "Germanize" English education. This would be impossible, for commercial, like all other schools, must be the outcome of a national

[1] *XIX Century*, December, 1900.

spirit. So English commercial education is influenced by German ideas and models, but independent in the main features. Therefore the two systems easily admit of comparison. I propose to deal with a large subject, and attempt to write in a foreign language, hence it would not be advisable to speak of the personal experience I gathered in commercial schools of all kinds in England and Germany, either as a pupil and a student, or as a teacher or visitor. Such experience will doubtless have an indirect effect upon this article, but for my direct source of information I shall follow a more reliable guide which will be within the reach of many of my readers—the various official publications published in England. They are very accurate in reference to German schools. I shall not fail to state the sources from which they are taken. As far as I am able, I have compared the German original with the English translation.

It is not within the scope of this article to give a lengthy investigation into the ends of agencies of commercial education in general. It may be sufficient if I state that in my opinion, commercial education has a twofold aim: It has to develop the mental faculties of the pupil, and especially, but not exclusively, those most needed in business life. Secondly, it has to impart the technical training necessary for office work. In Germany we find the science of commercial education far more developed than in England. In the latter country politicians have written far oftener about the subject than teachers, consular reports have been quoted more frequently than laws of psychology. In Germany the teachers of commercial schools are well organized,[1] not with the object of improving their material condition, but of obtaining new impulses and of learning from the experience of others.

The magazine of the Commercial Teachers' Association (*Zeitschrift für das gesamte Kaufmännische Unterrichtswesen*) has its contributors in all parts of the world. England has neither a periodical devoted to the interest of commercial education nor an association of teachers of commercial schools. We find the

[1] See W. WOLF, *Der deutsche Verband für das kaufmännische Unterrichtswesen und seine bisherige Wirksamkeit* (*Hannover, 1899*).

literature on commercial education in Germany mostly in books[1] dealing more or less thoroughly with the subject; in England we find numberless articles in periodicals and a good many official reports,[2] but not a single exhaustive work. The suggestions given by these agencies have led to great variety in commercial instruction in England.

We see this variety especially in the first stage of commercial education, namely in that intended for boys who leave school at fourteen and enter immediately an office. The instruction of these young men is compulsory in most parts of Germany but it is voluntary in England. In the former country it is given almost exclusively in the daytime, in the latter mostly at night. Commercial evening schools are maintained in England chiefly by the school boards. The instruction is either free (as in London) or at nominal fees. At present the question of these evening schools is vehemently discussed. The school boards are elected for the purposes of elementary education, and a decision of the law courts has declared the expenditure of ratepayers' money for the purpose of higher education to be illegal.

The English press, with very few exceptions, has extolled the school boards for fostering commercial education, for preparing the English boy for the struggle for international competition. And indeed, nobody can withhold his admiration from English school boards for expending in this manner so vast sums. There were in 1899 and 1900,[3] 12 commercial evening schools, maintained by the London school board. Bookkeeping, shorthand and French were also taught in a large number of the 350 ordinary evening schools in London; 9,217 pupils were enrolled during the session in the commercial evening schools; 25 pupils were under 14, 5,540 14 to 21, 3,652 over 21 years of age.

We could not help admiring London and its school board, even if the report did not tell us more about the actual attendance. The number on the roll was 5,979 in the winter term, it

[1] See DR. STEGEMANN, *Das kaufmännische Fortbildungswesen.*

[2] See M. E. SADLER, *Technical, Commercial and Industrial Education in England, 1895.*

[3] Report of the Evening School Committee, 1899–1900.

fell to 1,243 in the summer. Even more astonishing is the following summary (it is taken not only from the commercial but also from the ordinary evening schools): Number of pupils who received instruction during the session, irrespective of the number of lessons attended, algebra, 1,529; arithmetic, 27,614; bookkeeping, 22,018; commercial correspondence and office routine, 2,853. Total number of pupils who received 12 or more hours instruction during the session, algebra, 255; arithmetic, 6,392; bookkeeping, 8,035; commercial correspondence and office routine, 828.

In the first column of the following table are given the number of pupils who received instruction during the session irrespective of the number of lessons attended; in the second column the total number of pupils who received twelve or more hours instruction during the session:

English citizenship	2,396	620
French	19,279	6,151
German	1,415	509
Commercial history	362	88
English literature	3,060	485
Italian	74	28
Latin	250	103
Machinery of business	198	61
Political economy	137	22
Portuguese	21	7
Shorthand (including typewriting in many cases)	33,973	15,176
Spanish	162	85

If we realize the fact that many classes meet twice a week, and that therefore the attendance during the session of 41 weeks ought to be 82 (in some classes 164) then these facts give us an object lesson of the value of evening instruction and perhaps of the efficiency of free education for adults also.

In London and other large towns instruction is given also in the Polytechnics. Here fees are to be paid, and the attendance is, therefore, not quite as bad as in the evening schools under the school board. The Polytechnics complain of the competition of the latter authority, and indeed, commercial education would involve far less expenditure if organized by one central body. The following summary shows the evening classes

conducted in London in connection with the technical education board:[1]

	Classes.	Institutions.
French	173	28
German	92	25
Shorthand	146	28
Bookkeeping	67	25
Typewriting	37	12
Political economy	49	11
Spanish	31	10
Italian	15	9
Portuguese	6	3
Geography and history	38	17
Commercial law	13	9

What has been the commercial education of the German clerk who left school at the age of 14? Here I have to mention a very important difference in the training of young clerks in England and in Germany, a difference which the many writers whose opinion on the subject I have studied have entirely overlooked. The German boy receives the best part of his technical training in no school at all, he gets it in the practice of the office.

After leaving the elementary or secondary school (Realschule), the young man is apprenticed to a commercial firm. The indentures are to be signed by the apprentice, his parents, and the head of the firm. He is bound to instruct the young man thoroughly and systematically in all branches of his trade. The apprentice is bound to attend the business for four years, mostly without any remuneration. The firm is further bound to allow the young man to attend a day continuation school. After four years' apprenticeship, the young man is given a character by his employer. If a clerk seeks another situation, this character is often of greater value than the certificate of the school. This practical training in the office, going hand in hand with the regular instruction of a commercial day school, has many advantages beside those obvious upon the surface. It

[1] See *Report of the Technical Education Board of the London County Council* (London, 1901).

makes the career of a business man more expensive than in England, and this, I venture to say, is an advantage. The English clerk starts his career as an office boy, and his employer has no obligation whatever towards the instruction of the young man who earns just enough to defray the expenses of his living, and early gets a certain independence. But his knowledge and liberty do not increase in the same measure as his years and his needs. So it happens that he reaches the maximum of his salary within 25 years. A father who has to maintain his son to the age of 18 or 20, perhaps at a great sacrifice, will not only be very careful in the selection of the firm to which he apprentices his son, but he will also carefully superintend the doings of his son — who has to ask him for his pocket money. The commercial continuation schools (Kaufmännische Fortbildungsschulen) give instruction in the mercantile subjects, and besides in the elements of French and English. The attendance is in some cases obligatory for every apprentice to a commercial firm. The training continues for three years; the lessons are held either from 7:00 to 9:00 A. M. or from 2:00 to 4:00 P. M. on five days a week.

There existed in 1891 in the German Empire, 165 schools of this kind, of which 65 had been started since 1885. In Prussia there were 77, in the other German states 88. Town councils founded 23, chambers of commerce 11, merchant's guilds 20, the others by associations and private munificence. The state granted a subvention to 54, and town councils to 68.

The pupils of the day-continuation schools have to combine a school and business career. Many principals of firms object to this withdrawal from business of their employés for ten or twelve hours a week. They take, therefore, only boys into their offices who have passed through a secondary school (Realschule) or through a commercial school (Handelsschule). These schools combine the liberal education of a secondary with the technical training of a continuation school. A boy has to attend them mostly from the ages of 13 to 16.

A good idea of the curriculum of a German commercial school is given by the following course of the Handels-Lehranstalt, Leipzig:

	1st year.	2d year.	3d year.
German	4	3	3
English	5	4	3
French	5	4	3
Mathematics	3	3	3
Mercantile arithmetic	5	3	2
Physics	3	2	..
Technology	..	..	2
Chemistry	..	2	2
Study of Commodities	..	..	1
Geography	2	2	2
History	2	2	2
Commercial science	..	2	2
Counting-house work	..	2	..
Correspondence	..	..	2
Bookkeeping	..	..	2
Political economy	..	..	2
Caligraphy	3	2	2
Drawing	2	2	..
Gymnastics	2	2	..
Lessons per week	36	35	36
NON-OBLIGATORY SUBJECTS:			
Italian	..	2	2
Shorthand	2	1	1

There are about 200 commercial schools of this kind in Germany. The oldest of them was established at Leipzig in 1831. Saxony took the lead in establishing commercial schools,[1] but even there most of them are founded within the last twenty years.

The German commercial schools are, as to management, entirely independent of the secondary schools.

The contrary is the case in England. There commercial subjects are taught in many secondary schools, and almost every year brings a new attempt to bring commercial instruction into connection with secondary education. Some years ago the London Chamber of Commerce took the lead. It published the junior and senior scheme of commercial education.

[1] There are 64 commercial schools with 6,315 pupils in Saxony. See G. BLONDEL, *L'error industriel et commercial du peuple Allemande* (Paris, 1900), pp. 339.

The government having no power to enforce this curriculum, it was left to the head masters of secondary schools to carry out these suggestions.[1] "Not many did so. A cursory examination of this course of study shows plainly that the Englishman has not arrived at the same estimate of a thorough commercial instruction prevail as in continental Europe, although the chamber had consulted French and German models in framing the course, to wit, the '*plan d'études de l'enseignement special*,' in vogue in France, and the programs of the commercial schools in Munich and Leipzig. The English course contains subjects the special profit and value of which for future merchants is not clearly seen,[2] and, on the other hand, it does not contain studies which seem indispensable for commercial pursuits. After the sixth school year the juniors must submit to an examination in the following obligatory subjects, and in at least one optional study." 1. *Obligatory studies.*—English and literature, French (eventually German, Spanish, Italian, or Portuguese), history of the commerce of Great Britain and her colonies, commercial geography, arithmetic, bookkeeping, drawing. 2. *Optional studies.*—Various branches of natural science, geometrical drawing, shorthand, Latin.

For the senior course the following obligatory branches are proposed: Two foreign languages, mathematics, commercial geography, universal and commercial history, political economy, and banking, insurance, commercial and factory law. For this senior course an examination is provided, after which a higher commercial certificate is granted. The Chamber of Commerce desires to draw special attention to the fact that in its scheme it requires a sound general education before special commercial

[1] See *Report of the Commissioner of Education*, 1896–7, p. 207.

[2] See, for instance, the curriculum for English (senior) 1901. In literature an intelligent acquaintance with the following works was required: Bacon's *Essays;* Burke, *Thoughts on the Present Discontent;* Shakespeare, *Henry V., As You Like It.* What an "intelligent acquaintance" means will be seen by two out of the five questions in the senior examination for English, 1901: "Describe the characters of the 'Melancholy Jaques,' 'Touchstone,' 'Orlando,' and illustrate them by quotations. Connect with their context and explain the following extracts:" Six extracts are given, for instance, "Certainly there is a consent between the body and the mind, and where nature erreth in the one, she ventureth in the other."

subjects are introduced. But it drives a coach and four through its own act by the provision that special subjects may be taken. In consequence of this, most of the candidates cram into their heads just enough knowledge to get the certificate, for one or two subjects.

> Owing to the omission from the course of studies of branches absolutely necessary for thorough commercial preparation, the plan did not remain without serious opposition on the part of experts. Very few chambers felt impelled to establish commercial schools on the proposed basis. The chambers of Manchester and Edinburgh worked out kindred courses of study which they fashioned after German and French models, with this essential difference, that the courses are intended both for boys and girls.

A number of schools with modern sides have been founded in London and other English towns.

All these endeavors were found insufficient, and the schemes for commercial education, already large enough, were augmented by two new ones.

The Association of Chambers of Commerce passed, at its meeting 1898, a resolution in favor of commercial education, and addressed a memorial to the prime minister, asking for grants for commercial subjects in secondary schools. At present the educational department makes grants to commercial instruction of an elementary character in evening schools, but nothing has been done to assist financially commercial education of a more advanced kind. The head masters of secondary schools state that, while in their opinion there would be a large demand for commercial instruction if it were provided, they are quite unable to carry on commercial courses unless aid is given as is already granted to their work in science and art. The memorial of the Chambers of Commerce contains also proposals for the training of teachers of commercial subjects:

> It appears desirable that courses of instruction should be conducted in connection with the various universities by men having expert knowledge of the branches of business matters dealt with, and that degrees or diplomas should be granted on adequate examination.

As it is doubtful whether the present government will find time to carry out these suggestions, a new authority has appeared in the field to solve the problem of commercial education — the

London county council. A special subcommittee on commercial education was appointed by the technical education board of the London county council. The committee conducted prolonged investigations into the whole question, took a large amount of evidence from all sides and sources, and presented a comprehensive report to the board on February 20, 1899.

We need not quote the general remarks on the question of commercial education, both from a national point of view and also from that of the special requirements of London. The report expresses the same opinion as advocated by the London Chamber of Commerce in 1887, and as we find argued today in numberless articles of reviews and newspapers. Indeed, if it were possible to solve the problem by general remarks, suggestions and proposals, England would have the most perfect system of commercial education in all the world.

The report above mentioned made the following specific recommendations:

> That the commercial education required is of several distinct grades, and must be adapted to the different needs of many distinct groups. That, to meet the needs of those who enter business offices about the age of fourteen, day continuation schools are required which should give to boys a two years' course of training specially adapted for commercial life. That it is desirable that there should be, in many of the public secondary day schools in London of the second grade, departments devoting themselves primarily and avowedly to the preparation for commercial life of boys who leave school at eighteen or nineteen; that the curriculum of such a department should not lead up to a classical or mathematical career at the universities, but should qualify its pupils either to enter the higher ranks of commercial life or to pursue an advanced course of study in the economic and commercial faculty of the new London university, or in other institutions of higher commercial education, and that negotiations be entered into with a view to the development of such a department in one or more of the existing public secondary schools of the first grade.

It is in the last provision that we find a great improvement upon the schemes of the London Chamber of Commerce. New schools, but not new examinations, are wanted in England.

The technical education board has established a commercial department at University College School, London. It was

organized by Mr. A. Kahn, M.A., who gained one of the scholarships offered every year to teachers, to enable them to study commercial schools on the continent. The annual report of the technical education board for 1900 speaks in high terms of this school, which was opened with twenty boys in 1900. It has some features which distinguish it from all the commercial and from many secondary schools in England. Its pupils are not prepared for any external examination. It is intended that there should be an annual and a leaving examination, but these examinations are to be in the hands of the board, and are to be based upon the actual work done at the school. This provision, common to all German commercial and secondary schools, allows drawing up a curriculum influenced by nothing but educational science and local circumstances. This Mr. Kahn has done, availing himself of a large experience gathered in commercial schools of all kinds in France and Germany. The arithmetic is a special course of commercial arithmetic drawn up and taught by Mr. Kahn, and in the teaching of foreign languages the new methods of oral teaching are adopted. All this had been impossible had the board confined itself to establishing a new examination; or if the pupils were to be prepared for the senior commercial certificate of the London Chamber of Commerce.

The idea of higher commercial education has been developed systematically during the last thirty years. The last two years have witnessed the development of the highest stage in the process of commercial education. It has been recognized as an independent branch of university work. Germany has taken up the idea with great vigor, and will soon have four commercial colleges. The first of them was opened at Leipzig on April 25, 1898.[1]

This new high school is an instance of German foresight in grasping future necessities, and in providing betimes the means of supplying them. Its effect will undoubtedly be to bring German education in commercial matters, which is already extremely rigorous, to a higher level than ever before, and

[1] See H. RAYDT, *Handelshochschule zu Leipzig*, 1898; M. BECK, *Die Reform des Kaufmännischen Bildungswesens* (Mannheim, 1899), etc.

enable the German people to carry out commercial enterprise in the future even more successfully than they have done in the past.[1]

The scheme of the college has given rise to much controversy.[2] The Handelshochschule at Leipzig has no separate building and no professors and teachers of its own. Those employed in this new work are the men already lecturing and teaching either in the university or in the already existing commercial school. The object of the Handelshochschulen is to offer a scientific theoretical and a thoroughly practical commercial education to young men who have been already in trade, or who have had a secondary education or to intending teachers of commercial schools.

All the lectures are given at the university and are intended for students of law and political economy. They are fitted into the curriculum of the faculty of law and philosophy, and I do not think that the student of the commercial college has the same benefit from them as has a future barrister or judge.

The practical teaching at the Leipzig college consists in instruction in the various subjects, and is given by teachers of the commercial school.

In 1899 another commercial college was opened at Aachen.[3] It is connected with the technical college and has a curriculum very similar to that in Leipzig.

I think a very great step forward has been made in the establishment of the newest of the German commercial colleges. It was opened the first of May, 1901, at Koeln, and is entirely independent of any other college. The principal said in his opening speech:[4] "Our college is able to devote all its attention to the evolution of its own ideas."

The establishment of a fourth commercial college at Frankfurt is now under consideration. The development of these institutions is watched with the greatest interest in England. Various critics have advised the educational authorities to follow

[1] For the curriculum, etc., of the Leipzig College, see "The Commercial High School at Leipzig," *British Foreign Office Report* N. 468, 1898.

[2] See BEIGEL, *Der Kampf um die Handelshochschule.*

[3] See *The Journal of the Board of Trade*, October, 1898.

[4] *Zeitschrift für das kaufmännische Unterrictswesen*, May, 1901.

the German example, and have overlooked the fact that England may claim to have the oldest commercial school of university rank — the London School of Economics and Political Science.

It was founded about fifteen years ago, and recognized by the University of London, Act of 1898, as a faculty of the new University of London. It is open to intending professors in political economy, to those engaged in, or about to engage in public administration, central or local, in the public service, whether in England, in India, or in the colonies; and to those who recognize the utility of such general scientific training combined with some detailed knowledge of some group of subjects in relation to business and professional life, *e. g.*, bankers, merchants, railway officials, etc.

The classes are held mostly in the evenings, for the convenience of those engaged during the daytime; a full course at the school, including training in methods of investigation, would take no less than three years for a student who would give practically all of his time to the work of the school.

A professorship of commerce is also to be established at the new university at Birmingham. The course of study is not fixed yet.

The curriculum of the English high schools for commerce does not include instruction in modern languages or in the technical mercantile subjects, but in the essential features it has all the advantages of earlier start and of better earlier organization than the kindred institutions in Germany. But why is it that these have developed so rapidly that even Englishmen have lost sight of their own long-established commercial high school? The answer to this question is given in my concluding remarks on the spirit which enlivens the development of commercial education in both countries.

The students in the department for commerce and industries have to attend the following lectures: (1) Economics, descriptive and historical; (2) General economic theory; (3) Theory and practice of statistics; (4) The government of the British empire; (5) The structure and function of the modern state; (6) The history of British and German commercial policy, and the

issues of commercial policy; (7) Economic geography; (8) Commercial and industrial law.

The achievements of purely mercantile training have been somewhat overrated by many English writers.[1]

> The commercial success of the German nation is not the outcome of commercial education, the latter is rather itself the offspring of that success which has opened the eyes of the chambers of commerce to the immense value of commercial education for a commercial people. Therefore the wonderful increase of commercial schools is a result, and not one of the courses of the trade successes of Germany. About ten years ago the state of mercantile education was not a very high one.

If this be made to read twenty years ago, I agree entirely with these striking remarks. But how has it been possible for Germany to increase the number of her commercial schools to a far greater extent than England has done since the time when the schemes of the London Chamber of Commerce were published? In Germany a sound elementary and secondary education had laid a firm foundation to build upon. Every town went to work, according to its own local needs, and the government watched, centralized, and aided all these endeavors in order to prevent overlapping and unnecessary expenditure.

England is paying her penalty for having neglected education for a century. Every chamber of commerce tried to solve the problem for the country by establishing examinations or publishing schemes. Besides the examinations of the London Chamber of Commerce three or four other educational bodies hold examinations in commercial subjects. By this system many of the commercial schools have to prepare pupils for several different examinations, and are unable to follow their own curriculum. So education is not benefited, but fettered, by the endeavors to develop commercial schools. England can only hope to have lasting results for the sums spent on mercantile schools, if she considers and organizes commercial education as resting on the firm basis of a systematically organized secondary education.

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[1] *Foreign Office Report*, 434, November, 1897: "Commercial Education in Germany."

A COMPARISON OF RECENT AUTHORITIES ON METHODS OF TEACHING BOTANY

In the work in physics and chemistry in secondary schools, there is pretty general agreement regarding the essentials to be taught and the method of teaching them. Unfortunately, the same cannot be said of botany. As it is actually taught there are found the two extremes of devoting all the time, on the one hand, to a study of types, and on the other, to a study of the flowering plants alone; and between these extremes are found a great variety of gradations and combinations; and among the many text-books of botany now extant, there may be chosen several, representing such extremes of methods as to be exceedingly bewildering to one who is looking to them for suggestions. As a concrete instance of one source of this confusion, reference may be made to the report of the Committee of Ten, made in 1894, and to that of the Committee on College Entrance Requirements, made in 1899, both under the supervision of the National Educational Association. The first report recommends that the entire year be devoted to the study of types. The second report recommends that only half a year be devoted to this kind of work, and that in the other half, the study of ecology and physiology be made prominent. That such differences should appear in these reports, made only five years apart and under the jurisdiction of the same association, is sufficient indication of the radical changes that methods in botany have been undergoing.

But while a comparison of certain reports and text-books seems to present most divergent methods, a more prolonged study of a larger amount of literature indicates a general consensus of opinion in the main features as to what should be taught in an elementary course in botany, and suggests the thought that perhaps now we are approaching a standard that will become general. In justification of this statement, an

attempt is made in the table below to indicate the relative importance assigned to the various departments of botany, as gathered from a number of recent text-books and reports.

The divisions of botany now especially emphasized are physiology, ecology, and morphology. For the sake of present convenience, the last topic may be divided into three sub-topics: the study of types, or general morphology; the detailed study of the angiosperms, or special morphology; and the study of the structure and modifications of the organs of seed-plants, such as the seed, root, stem, leaf, flower, and fruit, or gross morphology. In the table a distinction is made between the several grades of importance given these five topics by the various authors. When stress is laid about equally on all the topics discussed, each is marked "important;" when one topic is especially emphasized above the rest, it is marked "very important;" when any topic receives only slight attention, it is marked "slightly important;" and when a topic receives no consideration, it is marked "not mentioned." That in some cases the purposes of the author may have been misunderstood is very probable, but perhaps the general deductions from all combined may prove not essentially inaccurate.

The reports and text-books referred to below are: (1) Report of Committee of Ten; (2) report of New York State Science Teachers' Association; (3) report of Committee on College Entrance Requirements, of the National Educational Association; (4) provisional report of committee appointed by the Society for Plant Morphology and Physiology to formulate a standard college entrance option in botany; (5) Spalding's *Introduction to Botany;* (6) Macbride's *Lessons in Botany;* (7) Bessey's *Essentials of Botany;* (8) Setchell's *Laboratory Practice for Beginners;* (9) Barnes' *Plant Life;* (10) Coulter's *Plants;* (11) Ganong's *Teaching Botanist;* (12) Atkinson's *Elementary Botany;* (13) Bailey's *Botany;* (14) Lloyd's "Course in Botany in the Horace Mann High School, outlined in *Teachers' College Record*, January, 1901; (15) *Studies of Plant Life*, by Pepoon, Mitchell, and Maxwell; (16) Bergen's *Foundations of Botany*. With the exceptions of Nos. 6 and 14, the plans outlined give work for a year's course.

Abbreviations — Imp., important; S., slightly; V., very; N. M., not mentioned.

Author	Ecology	Physiology	General Morphology	Gross Morphology	Special Morphology
1. Comm. Ten. (1894)	N. M.	N. M.	V. Imp.	N. M.	N. M.
2. N. Y. S. S. T. A. (1898)	Imp.	V. Imp.	Imp.	S. Imp.	Imp.
3. Comm. C. E. R. (1899)	V. Imp.	Imp.	Imp.	Imp.	S. Imp.
4. Comm. S. P. M. (1901)	Imp.	Imp.	Imp.	Imp.	N. M.
5. Spalding (1893)	Imp.	S. Imp.	Imp.	Imp.	Imp.
6. Macbride (1895)	S. Imp.	S. Imp.	S. Imp.	V. Imp.	V. Imp.
7. Bessey (1896)	S. Imp.	S. Imp.	V. Imp.	Imp.	S. Imp.
8. Setchell (1896)	Imp.	N. M.	N. M.	V. Imp.	N. M.
9. Barnes (1898)	Imp.	Imp.	Imp.	Imp.	N. M.
10. Coulter (1899)	V. Imp.	Imp.	Imp.	Imp.	N. M.
11. Ganong (1899)	Imp.	Imp.	Imp.	Imp.	N. M.
12. Atkinson (1900)	Imp.	V. Imp.	Imp.	S. Imp.	Imp.
13. Bailey (1900)	V. Imp.	S. Imp.	S. Imp.	Imp.	Imp.
14. Lloyd (1900)	Imp.	Imp.	Imp.	Imp.	N. M.
15. Pepoon (1900)	Imp.	Imp.	Imp.	Imp.	S. Imp.
16. Bergen (1901)	Imp.	Imp.	Imp.	Imp.	S. Imp.
SUMMARY—					
Very important	3	2	2	2	1
Important	10 } 13	8 } 10	11 } 13	11 } 13	4 } 5
Slightly important	2	4	2	2	4
Not mentioned	1 } 3	2 } 6	1 } 3	1 } 3	7 } 11

In considering the work to be done in a course in botany, it should be kept in mind that there are two distinct problems to solve according to the time to be devoted to the course, whether a whole year or a half year. The difficulties presented by the first problem are not numerous, but a satisfactory solution of the second is much more difficult. The consideration of the former problem will first occupy our attention.

In accordance with the table, there is seen to be a general demand for the recognition of physiology, ecology, general morphology, and gross morphology. The idea that the different subjects should be treated separately is strongly repudiated. Physiology and gross morphology should be taken up together and ecology should accompany all the subjects. The demand for the study of physiology and ecology are protests against the old method of looking on plants as lifeless things to be analyzed, classified, and laid away like minerals. It is insisted that the student shall be taught to look on plants as possessing life just as truly as do animals, and as having life problems to solve.

Some study of the organs of plants is necessary to a clear understanding of physiology and of some features of ecology, and, furthermore, it has other advantages of its own without reference to these subjects. The demand for a study of types is a protest against the one-sided and unscientific method of devoting the entire time to one class only of the whole plant kingdom, as has been done so largely in the study of angiosperms. The first reaction against this idea was itself one-sided in some cases. In the report of the Committee of Ten this was carried to the extreme, but an examination of the above table lends no sanction to the view that the study of types is being abandoned and the return being made to something like the old plan of studying the flowering plants.

It is more difficult to determine the place that shall be assigned to special morphology. The authorities are about equally divided as to whether it should have any place at all in the regular course. But those who would assign no place to this subject, together with those who would assign but a subordinate place to it, form a large majority. Those who favor the study of special morphology suggest two ways in which it may be taken up. There are some who follow a systematic study of families such as is outlined in Spalding's and Atkinson's *Botanies;* while others pursue this line of work by means of analysis of flowers and the determination of species by the use of keys, such as are found in Bergen's and Bailey's *Botanies*. But while Bergen has appended a key to his *Botany*, he says in his *Handbook:*

> To the author the analysis of flowering plants seems one of the least important of the many topics for study by a class in elementary botany. Whatever work is done in determination of species should be done with extreme thoroughness and supplemented by some such studies of the families of seed-plants as are outlined in Spalding's *Introduction to Botany*.

The plan still so prevalent in many of our schools of requiring the pupil to prepare a herbarium is almost unanimously condemned, either directly by those who refer to the matter at all, or indirectly by those who provide no place for such work in the plan of study. The objection offered to this kind of work

is not that the training thus gained has no value, but that the time can be more profitably spent in other ways.

A fair conclusion with reference to this subject as upheld by a comparative study of the authorities named in the table, seems to the writer to be that the present tendency is decidedly away from the study of special morphology; but that if this subject is taken up at all, it be by a systematic study of families, leaving the use of keys and the preparation of herbariums as voluntary work for such as are specially interested. But even granting that special morphology should have a place in the course, there is no justification for allowing it to occupy a larger part of the time as is so frequently done in our schools. Those who favor the study of this subject make it but one of several subjects to be included in the course, and thus allow for it a corresponding proportion of time.

As already stated, the plans outlined in the table are intended for a year's course, excepting those of Macbride and Lloyd. But the report of the New York State Science Teachers' Association, that of the Committee on College Entrance Requirements, and that of the committee appointed by the Society for Plant Morphology and Physiology, and Spalding in his *Botany*, present suggestions also for a half year's course; and Barnes, Coulter, Atkinson, and Bergen have prepared text-books for a half year's course; and the writer has ascertained through correspondence the views of Professor Ganong with reference to the shorter course.

There is quite general unanimity of opinion that the first four topics in the table should be included in a year's course, but there is much difference of opinion as to what should be included in a half year's course. There is one school which would treat the same topics in a half year as in a year, only less thoroughly by a selection of the more central parts. Another school would exclude entirely some topics included in the year's course and treat the remaining topics as thoroughly in one case as in the other, thus making the half year's course the same as the first half of the year's course. Of the four topics which have been found to be generally accepted for the year's work, this school would omit entirely general morphology. To the

first school belong Atkinson, Barnes, Bergen, Coulter, Lloyd, Spalding, and the report of the New York State Science Teachers' Association. To the second school belong Ganong, Report of the Committee on College Entrance Requirements, and that of the committee appointed by the Society for Plant Morphology and Physiology.

Thus, judging from mere numbers, the weight of authority seems to be with the first school. But there are several considerations to be taken into account in forming a fair estimate of the relative value of these two schools. The authority of the Committee on College Entrance Requirements is not that of one man, but of a Committee of Twelve appointed by the National Educational Association, and hence is entitled to more weight. The report next referred to in the second school is also that of a committee composed of three members. This report is worthy in all respects of most careful consideration as being the latest publication on this subject, and as being prepared under the jurisdiction of so large and prominent a body as is the Society for Plant Morphology and Physiology. The plan of this society in appointing this committee was that its preliminary report should be submitted to the members, and that the committee should be guided by any opinion submitted by a majority of its members. Professor Ganong writes that the final report has been prepared, but is not ready for distribution, but that it does not differ materially from the preliminary report. The committee appointed by this society consists of Professors Ganong, Lloyd, and Atkinson. The last two of these had previously prepared outlines for a half year's course, following the plan of the first school; but as the report was written later than these outlines, it would seem fair to cancel these two (No. 14 and the abbreviated course of No. 12) in balancing the weight of authority. And, furthermore, this change of plan by these two men is of special interest as indicating the tendency of the present change of opinion.

After the discussion of special morphology in its relation to a year's course, it needs only be added that, in its relation to a half-year's course, some members of the second school who

assign a place of slight importance to this topic in a year's course, do so in connection with the study of types, which, in accordance with their views, should not be included in a half-year's course, so that there is less justification for including this topic in the work of a half year than in that of a year.

Thus, while there is considerable difference of opinion concerning the place that shall be assigned to general and to special morphology in a half-year's course in botany, there is almost unanimous agreement that gross morphology, physiology, and ecology should form the backbone of the course.

While there is quite general agreement, and more especially in a year's course, concerning the subjects to be studied, there is considerable disagreement as regards the methods to be followed and the relative time to be used for each subject. On the one hand is the report of the Committee of Ten, recommending that the study of types occupy all the time, while on the other hand are books, like Setchell's, in which the subject is barely mentioned. But, in spite of these extremes, there are quite a number who would devote approximately one half of the time in a year's course to the study of types, the other half to physiology and gross morphology, ecology being taken up in connection with all the topics. Such is the plan of the Committee on College Entrance Requirements, of that appointed by the Society for Plant Morphology and Physiology, and of Coulter, Ganong, Lloyd, and Pepoon. And this seems to be the tendency, to divide the work into two parts occupying about equal times, one the study of the general principles of botany, or general botany; the other, the study of the chief groups of plants, or special botany. This tendency is seen, not only in text-books proper, but in the larger works suitable for reference, such as *A Text-book of Botany*, by Strasburger, Noll, Schenck, and Schimper.

And again, as regards the order of taking up the study of types, there are two schools. One begins with the lower forms and works up in the logical and evolutionary order. The other begins with the higher and better known forms and works from the known to the unknown. The weight of the above authorities is most decidedly in favor of the first method, there being

only two exceptions, Lloyd and Macbride. With perhaps one exception, there is quite general agreement that the study of types should not be the first topic taken up, as it is not best to introduce the use of the microscope at the very beginning of the course.

The books mentioned in the table differ somewhat in the purpose that they are intended to serve. Three general classes of books may be distinguished. First, there are laboratory guides which furnish no reading at all for the student; then there are text-books which furnish no directions for laboratory work, but only material to be studied by the pupil; and lastly, there are those that serve as both laboratory guide and text-book. While this last class of books has been widely used, in recent years there has been a tendency in many quarters to use separate books for laboratory guide and text-book, or to use books in which these two features are kept separate, thus following the plan quite generally adopted in the teaching of physics and chemistry.

A historical study of the methods of teaching botany shows a sort of inverse ratio of importance now placed on the various topics, as compared with the time that has passed since each was especially emphasized as the central theme. Physiology and ecology are the most recent additions to botany, and the most emphasized. The study of types takes us back to a little earlier stage, and, while still important, is not emphasized to the same extent as the subjects first mentioned. The study of the organs of the flowering plants remains as an important feature to be taken up in connection with physiology, though secondary to it, and this takes us back to a still earlier period when the gross morphology of plants was the central idea of botany. And lastly, and least emphasized, is the special study of the flowering plants by the analysis of flowers and the determination of species, which takes us still farther back to the time when the study of botany consisted almost entirely of this kind of work. Thus, from each of these epochs in the history of botanical teaching, has been taken something of value to make up the present plan.

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THE STEREOPTICON IN SECONDARY TEACHING[1]

1. *Why use a stereopticon?*—We remember not words, but objects. We recall not descriptions, but the images derived from descriptions. No man, be he ever so eloquent, can give to pupils, in words, so good an idea of the Aphrodite of Melos as a fifteen-cent photograph. All our materials for thought-images are derived from what we ourselves have seen or have comprehended in terms of our own experience. In teaching (especially in the classics and ancient history) many things are so remote from the personal experience of our pupils that their ideas will be inaccurate, vague, and nebulous, unless we give them definite images. Talk for half an hour giving purely a verbal description of the Parthenon—how clear an idea does your average pupil have of it? Show him a picture, call his attention to various points—then his knowledge crystallizes, and he has an image that he will retain for years. Therefore, whatever increases the stock of clear-cut images in our pupils' minds must be of great aid in extending their knowledge and in enkindling interest. For this purpose no other one thing can equal views shown by an optical lantern. Illustrations in books and photographs are excellent, but cannot equal the lantern in at least two respects: first, owing to the darkening of the room there is nothing to distract pupils, hence voluntary and involuntary attention both center on the screen; this concentration of attention inevitably leads to sharp impressions and vivid recollections; second, the attention of an entire class is focused on the same thing at the same time—something impossible with any other form of illustration.

2. *Lanterns and screens.*—The lantern itself may cost from almost nothing to a very large sum. Three elements are to be considered: the light, the condensing lenses, and the projecting lens.

[1] Outline of a paper presented, with several practical illustrations, at the Classical Conference held at Ann Arbor, Mich., March 29, 1901.

Sunlight costs nothing, but some form of *porte lumière* is necessary. An ingenious boy can make the whole apparatus (the mirror excepted) from illustrations in texts on physics, or from cuts in Dolbear's *Art of Projecting* [Lee & Shepard, Boston]. The mirror must be fine plate, the thinner the better. For artificial lights we have electricity, the calcium light, acetylene, and oil. Electricity is most convenient and is cheap in operation, but is often unavailable; the calcium light is unexcelled but rather expensive; acetylene is excellent if the screen is not too large; oil lamps are apt to be ill-smelling and unsatisfactory generally. For pictures not exceeding five feet square I have used an ordinary acetylene bicycle lamp with great satisfaction, and think it superior to any oil light obtainable. The cost of running it is about five cents an hour.

The condensing lenses should be four and a half inches in diameter. They may be bought mounted or unmounted. If unmounted, the cost need not exceed $5 or $6 a pair. I have on two occasions made serviceable mounts with pieces of shingle, a jack-knife and some brads. On a turning lathe neat wood mounts can be made very easily that will answer every purpose. For sunlight but one condenser is needed, as the rays of light are already parallel.

For a recitation room a "quarter-plate" projecting lens is generally best, costing from $7 to $10. If sunlight is used, any rectilinear photographic lens covering a 4×5 or 5×7 plate may be used with entire satisfaction.

For a screen, a solid white-plastered wall is best; a heavy white oil-finish window-shade on a tin spring roller is good, but expensive. As the next best thing, stretch the best quality of bleached sheeting tightly on a frame, cover it with a heavy coat of kalsomine, and hinge the upper edge of the frame to the ceiling, swinging the screen up by cords and pulleys when it is not in use. Plain sheeting can be used, but the coating of kalsomine increases the brilliancy of the picture some 25 per cent. For small screens a few feet square, I know of nothing superior to sheets of white carboard, matt surface, glued together by the edges to form the proper size. This can be had at any printing-office for a few cents a sheet.

If the lantern is to be used at a fixed distance from the screen, a bellows is unnecessary, and the body of the lantern may be made of cardboard and tin — that is, if one is getting up a lantern at the lowest possible cost.

If expense does not have to be considered too closely, for regular school use an electric steropticon is undoubtedly the most desirable, but one should be chosen in which the two carbons are at right angles. With an *alternating* current, however, any electric lantern will make a most objectionable buzzing.

3. *Slides.*—Thousands of slides are listed by dealers in this country and in Europe, but often one will desire to have slides not to be found in any list, as of local points on physiography, or from illustrations and photographs. Anyone familiar with photography can readily learn to make slides; often some pupil may be found who is willing to do the work. In case of a drawing or photograph, a negative must first be made. A very slow plate is most satisfactory for this purpose. For copying, the common hand cameras are unsuitable, not so much because of the kind of lenses as for the reason that the bellows is too short to make a copy anywhere near the same size as the original. Time forbids a discussion of the details of slide-making — full directions may be found in any photographic instruction book. Suffice it to say, the work is fascinating and comparatively inexpensive.

4. *In what classes may slides be used?*—The lantern can be used to very great advantage in classes in physiography, in history, and in connection with work in Latin and Greek. The need of illustration in physiography is great, inasmuch as no one locality, and usually no one section, furnishes actual examples of all formations. For instance, what idea from direct observation can most Michigan pupils get of stratification on a grand scale and of the resulting forms and contours due to erosion? But with a lantern the cañons and plateaus of the West can be brought before their eyes. Again, what idea of wave and coast erosion can pupils get who live at a distance from any large body of water?

In modern history the amount of material is endless—places,

buildings, persons, etc. But the need of illustration in ancient history is far greater, inasmuch as it is far harder to comprehend in terms of the life of today. Views of the statues from Egypt, tomb paintings, hieroglyphics — all these will give tangible things to remember. Much the same may be said of Chaldea and Assyria. A talk, not too technical, on the art of these countries will arouse interest. In Greek history, very much can be done, for we have abundant material in views of extant ruins and in pictures of famous localities. What pupil is not intensely interested in seeing the pass of Thermopylæ, Olympia, and the ruins of the Acropolis? It seems to me that illustrations in connection with Greek come in more naturally in connection with Greek history than with the study of the language itself, but others may have a different view.

English is a prolific field for lantern work. When pupils are reading the *House of the Seven Gables*, show them views of Salem; when they have the *Merchant of Venice*, take them to Stratford to see the country of Shakespeare. I have but time to say that teachers of botany, zoölogy, physiology, and astronomy will find the lantern an invaluable aid.

5. *Slides in connection with work in Latin.*— I now come to my last, and, from a personal point of view, most important topic— the lantern in connection with Latin work. What I have said of the need of illustration in teaching a thing remote in time or place from the pupil needs here to be emphasized. Strange as it may seem to some of us, I venture to say that a great number—I hope not a majority—of our high-school pupils have no vivid conception of the Romans as actual flesh and blood men; Cæsar and Cicero are but ghostly figures compared with Washington and Lincoln. I myself well remember what amazement overtook me when in a college course in Plautus I actually realized that the Romans indulged in ordinary conversation and even in slang, and did not invariably use the military conciseness of Cæsar, the oratorical finish of Cicero, or the euphonius hexameters of Virgil. Of course I knew as an abstract fact that the Romans lived, loved, and hated, but, to use an expressive phrase, I did not "sense it" till long after my high-school days.

Here, then, we have what I believe is the greatest bar to arousing the liveliest interest on the part of our classical pupils, namely, the difficulty in making pupils fully realize and feel that the great characters of Roman life and history were men — men of like passions with ourselves. Once get pupils to realize this, and I believe the question of interest will thenceforth take care of itself.

As regards the lines in which slides may be profitably used in the four years of Latin, ideas will differ, but I will indicate briefly what may be a good arrangement. In the first year of Latin, choose anything that will be of interest. Make this, not scientific information, the main object. While I am not inclined to think that children have the inborn antipathy to declensions and conjunctions some would have us believe, yet I believe that every effort should be made in the first year to interest Latin pupils. To that end, one may talk at one time of Pompeii in general, again tell of the home life of the Romans, show slides of paintings, especially of the delightful compositions of the Coomans. Take your class for a walk around Rome — and don't be too scientific, too technical. Be accurate, of course, but bear in mind that pupils at this age do not care whether a wall painting is of the first or the fourth style, or whether a given modern painting is correct in all its details when scrutinized with an archæological microscope. Tell the stories Livy tells, showing slides of paintings and drawings — never mind if Mommsen, Niebuhr, Freeman, and historians generally, do relegate these tales to the realm of myths.

In the second year the average pupil studies Cæsar, for Cæsar is still firmly intrenched in the second year of our high schools. Here let me digress just long enough to say that in the discussion over second-year Latin I am emphatically a Cæsarian; if, by pupils, he is found a dry and tedious author, the key to the trouble is to be sought, not in Cæsar, but in the teacher who himself regards the *Commentaries* as an anhydrous literary petrification.

But to return to my text: The most natural course here would be to use a series of slides illustrating the topography of

the Gallic war, giving the battlefields in detail. Unfortunately no such series is yet available for school use. From personal experience in my own classes I can vouch that the use of such slides immensely enhances interest in the subject. Of a few of the localities photographs may be had from regular dealers. Then the Roman art of war will furnish considerable material—slides of the sculptures of Trajan's column, for instance, and also of the pieces (restorations) of Roman "artillery" in the Musée St. Germain, near Paris. Historical paintings will also give us numerous slides relative to the life and death of Cæsar. A few views of the Forum Romanum might also well be shown. One talk may profitably be given to the writing of the Romans, and slides of some of the extant manuscripts of Cæsar will be decidedly interesting.

In the third year, in connection with Cicero, a somewhat careful study of the Forum Romanum is akin to the subject. Here I should enter a plea for the free use of restorations. Granted that most are faulty, and like railway schedules, subject to change without notice, the fact remains that without the aid of such views our pupils will be quite unable to form any clear idea of ancient structures in their prime, for the reason that they have no stock of images of ancient buildings upon which to draw. So I would prefer even an incorrect restoration to none at all at this stage of instruction. The realization of ancient life more than compensates for slight errors of fact. A study of Rome itself in ancient times is naturally connected with a study of the Forum. Views of localities associated with the life of Cicero will add to the study of the author's biography.

In the fourth year, a wider range of topics may be presented. In connection with Virgil we may use views of localities mentioned in the *Æneid*, of the gods and goddesses as represented in Graeco-Roman sculpture, of paintings ancient and modern, and of manuscripts.[1] Aside from such work as this, wider excursions in Roman archæology will be appreciated by twelfth

[1] An interesting lot of photographs, suitable for the illustration of the first six books of VIRGIL'S *Æneid*, is given by MR. I. B. BURGESS in the SCHOOL REVIEW for 1895, pp. 391–393.

grade pupils. In this connection, the following subjects may be considered: Commemorative arches, a rather comprehensive study of the Roman house and its decoration, theaters and amphitheaters, the orders of architecture illustrated by extant ruins, Graeco-Roman sculpture, Roman portrait sculpture, tombs, sarcophagi and inscriptions, temples, etc. I would not wish to be understood as saying that all these should be used—a teacher may select what he thinks of most interest to the class, or may have to begin with a few slides illustrating one subject, later gradually adding to his stock. Probably no two teachers would pick out just the same slides or present just the same subjects.

It may be well for me to confess that in my own teaching I have not personally been able to follow out this scheme in its entirety, not because of lack of slides, but from want of time. I keep it in mind, however, as a thing to approximate as nearly as possible.

Someone may object that what has been said implies a far wider range of knowledge than the average secondary Latin teacher possesses. But does it imply any wider information than such a teacher *ought* to have? And should the instructor's knowledge be too limited, studying up some of these topics will prove the best possible thing for the teacher himself.

One point more, in conclusion. I am not urging that the lantern should be used daily or as a way to make a subject essentially easier. Far from it, for I am not a believer in the idea that the highest aim of a teacher should be to make a subject easy. Further, the pupil who leaves school without fully appreciating that most things worth doing require a deal of honest hard work, and who has not gained the power to apply himself energetically to a hard subject, has missed an essential part of education. The traveler who always seeks level or descending paths never gains the top of a mountain; the shortest path to the summit, both in distance and time, is often the steepest and hardest. Just so the pupil who always follows the line of least resistance will never develop the backbone necessary

to successful accomplishment in life. But I do maintain that the lantern used occasionally, either in the class hour or at some other time, is a most powerful agency in arousing and stimulating interest in the study of the classics. Once your pupil is interested, teaching Latin, or anything else, is easy.

GEORGE R. SWAIN

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PROCEEDINGS OF THE CLASSICAL CONFERENCE HELD IN CONNECTION WITH THE SPRING MEETING OF THE MICHIGAN SCHOOLMASTERS' CLUB.

In connection with the meeting of the Michigan Schoolmasters' Club at Ann Arbor, in March, 1901, a Classical Conference was held in the afternoon of Friday, March 29, and in the evening of the same day. The papers, as usual, dealt for the most part with matters of scholarship. The meeting was well attended, and the papers, which were listened to with interest and attention, were freely discussed. They were as follows:

1. *The quantity of vowels before gn in Latin*, by Professor Carl D. Buck, of the University of Chicago.

This paper is published in full in the *Classical Review*, Vol. XV (1901), pp. 311–15.

2. *The Art of Translation*, by Professor Martin L. D'Ooge, of the University of Michigan.

Translating may be defined as the art of reproducing the thought of the original in idiomatic English, and in such a way as to produce upon the mind of the hearer or reader the impression aimed at by the author.

This involves: (1) that one should understand exactly what is expressed in the original, and (2) a change of expression or form from the original idiom into the idiom of the language of the translation. The first requisite is too obvious to need anything more than a mere statement. The second, however, needs constant emphasis. To turn an author word for word is not to translate him. The attempt to do so produces at best a *wooden* version, and often leads to absurd mistakes and a loss of the true meaning of the original. This point was illustrated by specimens of mistranslation from classroom experience, and enforced by a quotation from Chapman's preface to his translation of Homer, taken from Tolman's recent monograph on *The Art of Translating*. (3) The art of translating involves also an effort to reproduce the *style* of the original — poetry as poetry, prose as prose. Perhaps we ought to go even further, and say we should aim to imitate, in our version, the differences in style of the different kinds of poetry, lyric, epic, dramatic; and of prose, history, oratory. At any rate, if this is asking too much, the student must be made to feel the *artistic* element in the original, and not be allowed to suppose that he has done his whole duty to his author when he has simply reproduced the meaning, without paying any regard to the form or style. Dr. Arnold, of Rugby, used to say that every sentence in Greek is a problem in English. Certainly one of the greatest benefits resulting from the study of the ancient classics lies just here: in a language crystallized in its form, sharp and clear in its expression, and quite different from our own in its idiom, the student finds the thought of his author, and this thought he needs to transfer as faithfully as possible into his own idiom, preserving so far as possible the tone and flavor of the original. I know of no better discipline in the use of the English language. It involves:

1. Choice of words. Tolman well says: "The choice of words in translating is what the selection of color is in painting." Moritz Haupt, in his day probably the

greatest master of Latin in Europe, once said: "A true translator must feel what he can't put into words." This does not mean that a student should be allowed to be slovenly or careless in his version, but that he should have a high aim which he is conscious he cannot always reach. We teachers of classics are too prone to allow our students to make inexact and slipshod translations.

2. Translation involves the proper arrangement of words in a sentence, so as to give the right emphasis. Of importance to the teacher, here, is such a book as Weil's *Order of Words in the Ancient Languages compared with the Modern*. The figures of rhetoric, such as antithesis, collocation, chiasmus, alliteration, should be preserved in the translation if possible. The ancient writers expressed a great deal by means of the order and disposition of words. Do we teachers try to make our pupils see this?

3. Translation involves a reproduction of the figures of speech of the original. This is sometimes, to be sure, impossible, in which case we must be content with a paraphrase. When Pindar speaks of "feeling a shrill whetstone on his tongue" we must explain, but too often the student is allowed to lose the force of a metaphor which can be reproduced in English.

In conclusion, Professor D'Ooge again exhorted to the cultivation of a higher ideal in translating. Too much jargon and blundering is allowed. In one point the paper did not agree with Tolman, who seems to go too far in his contention that the translator should so exactly reproduce his author as to imitate even his defects and vices as a writer.

There is no reason why, for example, Frazer should be blamed for giving in his translation of Pausanias a stately English for the broken and slovenly Greek of the original. A minute and painful imitation of the original need not be encouraged in the rare cases where such an imitation would produce what would be condemned in a good English style. But this caution seems hardly necessary in the case of those who are likely to fail in using good English, not from an attempt to reproduce exactly the style of the original, but from a lack of effort to find the best English at their command to express the thought of the original.

3. *The Annales of Varro*, by Dr. Henry A. Sanders, of the University of Michigan.

The probable character and contents of the work were first determined, following the beginnings made by Ritschl in his discussion of Hieronymus's catalogue of the works of Varro. Theories of other scholars were then discussed and rejected. After this preliminary matter the intimate relationship between the *Annales* and other works of Varro was established, and the origin of some Varronian fragments in Valerius Maximus, Aulus Gellius, Festus, Solinus, and others was shown to have been from this work.

This paper will be published in full later.

4. *Ingenium in the Ablative of Quality and the Genitive of Quality*, by Professor George V. Edwards, of Olivet College.

This paper will be published in full in the Gildersleeve Memorial Volume, Baltimore.

5. *The New Requirements for the Degree of A.B. at the University of Michigan*, by Professor John C. Rolfe.

The decision of the faculty and regents of the University to confer the degree of bachelor of arts upon all graduates of the department of literature, science, and the arts does not make the degree less valuable than before. The letters A.B. have for years represented in this country very different courses of study in institutions of widely different grades; they may be conferred after a course of study pursued with high credit in one of our leading universities, or upon mere graduation from institutions whose standard is hardly as high as that of our best high schools.

The future of classical studies is in no way affected. Similar action was taken years ago by Harvard University, whose example was followed by Cornell and other institutions of influence. Yet, according to the *Report of the Committee of Twelve*, the number of students studying Latin in our secondary schools increased 174 per cent. during the period from 1889 to 1898, while the number of those studying Greek increased 94 per cent. An examination of such reports of the commissioner of education as have appeared since 1898 shows no material change in these figures.

The speaker expressed his dissent from the ideas that all studies have an equal disciplinary value, and that boys and girls of seventeen or eighteen are competent to choose their studies at will from the varied curriculum of a modern university.

In the discussion which followed it became evident that the exact nature of the change proposed had been generally misunderstood, and that the attitude of the University authorities towards the study of Greek and Latin had in some cases been grossly misrepresented by the public press.

6. *The Stereopticon in Secondary Teaching*, by Principal George R. Swain, of the Bay City High School.

This paper is published in outline on pages 146–153, this number of SCHOOL REVIEW.

JOHN C. ROLFE

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BOOK REVIEWS

THE REVIVAL OF ENGLISH GRAMMAR

THE study of English grammar consisted for a long time in applying rules modeled upon those of the highly inflected Latin language to the facts of the English tongue, which is almost wholly uninflected. The difficulties and discrepancies which resulted from this unwise procedure were tacitly assumed to be due to the defects of the English tongue. The coat was all right, but the boy was too small. As we shall see, the study of English grammar has by no means freed itself, even now, from misleading rules and statements borrowed from Latin grammar. But a new day has surely dawned when a leading scholar argues, in a remarkable book, that the grammatical system of modern English is distinctly superior to that of older English and other highly inflected languages.[1] The present writer believes that the argument of Professor Jespersen, in its main lines, is unanswerable. The history of language is a record of progress, not of decay and retrogression, and the modern analytic tongues are an improvement upon the older synthetic type. It is safe to say that the fixed word-order, the freedom from inflections, and the abundant use of prepositions and auxiliary verbs, which characterize modern English, are a distinct improvement upon the contrasted phenomena of the older languages.

Richard Grant White, in his striking book, *Words and Their Uses* (1870), stated flatly that "nearly all of our so-called English grammar is mere make-believe grammar" (p. 304). He declared, among other things, that in English "the verb needs not, and generally does not, agree with its nominative case in number and person: . . . . active verbs do not govern the objective case, or any other: prepositions do not govern the objective case, or any other" (p. 296). These statements may seem extreme; but there are many suggestions in White's remarkable book which our textbooks upon English grammar should have adopted before this. The objective case of nouns, for example, does not exist in present English, and therefore should not be talked about. It is as purely a myth as Sairey Gamp's "Mrs. Harris." Professor Whitney tells us frankly in his *Essentials of English Grammar:*

> There is no noun in our language which really has an objective case. . . . Still, partly by analogy with the pronouns, and partly because many other languages related with English, and even the English itself in earlier times, do distinguish the object from the subject in nouns as well as in pronouns, we usually speak of nouns as having an objective case (p. 32).

The fact that earlier English and other languages show an objective case of nouns may well be one of the main reasons why we still speak of such a case in discussing present English; but, in reality, this fact is a powerful argument against doing so. The objective case of nouns is not merely a figment as regards the speech of today; it is something which the language has rejected. It represents the Egypt from which we have come out. It is, therefore, not a harmless fiction; it is a harmful falsehood.

But may we not call each distinct use of a noun a separate case? This would

[1] *Progress in Language*, OTTO JESPERSEN, Ph.D., Swan Sonnenschein & Co. 1894.

disregard the older conception according to which each separate form of a noun is a case. Among the grammars to be mentioned later, that of Professor Carpenter talks of the "dative case" of nouns, and that of Harvey of the "absolute case." But why not give also a "vocative case," and an "adverbial case"? And should not the use of nouns after prepositions be distinguished from their use after transitive verbs, giving a "prepositional case"? It is plain that there is little to be gained and much to be lost by giving to the word "case" a new meaning, in order to accommodate the teachers of English grammar.

That the finite verb agrees with its subject is still taught in English grammars to the confusion of pupils and the despair of teachers. In each of the expressions *nos amamus*, *vos amatis*, and *illi amant*, the verb actually agrees with its subject. As all understand, the form *amamus* cannot be used except when the subject is in the first person and plural number. This is agreement, grammatical concord. It is such facts as this that gave rise to the whole body of grammatical doctrine on this subject. To say that the verb agrees with its subject in number and person in the expressions *I love*, *we love*, *you love*, *they love*, is a deliberate ignoring — rather a flat falsification, of the facts of the case. Instead of accepting the plain reality that Latin here has agreement between the verb and subject, and that English has not, we get up a purely metaphysical agreement, and waste our time and confuse our minds by parsing something which does not exist. One might as well discuss whether Sairey Gamp's "Mrs. Harris" was a blonde or a brunette. As White puts it: "Children are required to cite a rule which they cannot understand, as the law of a relation which does not exist" (p. 304).

Why, then, should our elaborate system of "make-believe grammar" have free course and be glorified? In such expressions as *I am*, *he is*, *he loves*, the verb does agree with its subject in number and person; and it is well to say so. In *I love*, *we love*, *you love*, *they love*, the verb in each case *is used with*, but does *not agree with*, its subject. In some of the forms of the verb *to be*, and in the rare forms in *-est* used with *thou* as subject, we have actual agreement between verb and subject. Outside of these cases there is no agreement of the finite verb with its subject in person and number, except in the third person singular of the present indicative, as in *he loves*. To parse agreement whenever a distinct form of the verb marks a particular number (as in *are* and *were*), or whenever a distinct form marks a particular person and number (as in *am*, *is*, and *loves*), and to say nothing about agreement when there is no such distinct form, is the simple rule that the present writer would urge upon all teachers who are able to see the matter as he does.

The uselessness of "make-believe grammar" was undoubtedly responsible for a marked reaction against all formal teaching of English grammar, which was very noticeable for a time. This movement received emphatic expression when the Connecticut State Board of Education discontinued the state examinations in English grammar, giving the following reasons:

> (1) The study of grammar or analysis does not help us either to speak or write our language. (2) As a study technical grammar is hateful to any child, and belongs to our advanced course, if anywhere. Its use in an elementary school is contrary to all approved pedagogical theories. (3) There is not time for such work and for other subjects that belong to our civilization. (4) We are convinced that the discipline said to be derived from the study of grammar can be secured by the study of other subjects: for instance natural science, which of itself furnishes practical knowledge.[1]

[1] Cited in F. A. BARBOUR'S *History of English Grammar Teaching*, *Educational Review*, December, 1896. Date of action of Connecticut board not given, but previous to March, 1891.

The statements just quoted are not generally accepted today. Beginning with Samuel S. Green's *English Analysis*, published in 1847, routine parsing has been supplemented more and more by sentence analysis and practice in the forming of sentences. The intelligent analysis of English sentences is really an analysis of the processes of thought there expressed. This discipline is fundamental and of the highest value; it sharpens the student's powers of insight and discrimination, and helps him directly in every department of his work. That the study of grammar and analysis is now generally accepted as indispensable is indicated by the *Report of the Committee of Fifteen*, and by the great number of text-books on this subject which are constantly appearing, at some of which we are to glance. The Committee of Fifteen tells us that grammar "has long held sway in the schools as the disciplinary study *par excellence;*" and that "a survey of its educational value . . . . usually produces the conviction that it is to retain the first place in the future."

With the study of sentence analysis came the reign of the diagram. "Grammar," said a wag, "means diagram-mar." A diagram is almost necessarily misleading in many ways;[1] and the pupil who employs it is not compelled, as he should be, to hold in his mind all the parts and relations of the sentence. The half-mechanical accomplishment of diagramming comes to be sought rather than an intimate comprehension of the sentence; those peculiar features of a sentence which cannot be diagrammed are lost sight of; and the time which should be given up to oral analysis and the accompanying practice in oral expression is wasted in constructing mystic circles, branching trees, and grammatical chicken-coops. Of the text-books which are to be noticed in this paper, those of Allen, Kimball, Kittredge, and Wisely, make no use whatever of the sentence-diagram.

However, if any teacher burdened with large classes finds that it is practically necessary to make use at times of some device by which the entire class can be set at work together, and by which each student's knowledge of the relations existing between the different parts of a number of sentences can be rapidly tested, that teacher is recommended to glance at the method of written analysis set forth in *English Grammar and Composition*,[2] by Gordon A. Southworth. According to this system a written analysis of the sentence is made without rewriting it. This is accomplished by the use of underscoring, overscoring, parentheses, brackets, etc. The time and labor involved in writing the sentence more than once, and the false conceptions which spring from putting it into some twisted form, are all saved. Since the symbols are plainly meaningless in themselves, the child recognizes them as purely arbitrary devices.

In Mr. Southworth's book "composition" and "sentence-structure" are treated before the separate parts of speech. The discussion of "case as a form" and "case as a relation" (pp. 162–166) seems to the present reviewer to be the most complete and satisfactory presentation of the subject of case which he has found in any school grammar. The view presented is that "nouns have two case-forms or *cases*—the general or *common form*, for all uses but one; and the special or *possessive* form, used to show ownership or possession." However, the traditional doctrine of three cases in nouns is also presented in full, for the use of those who prefer the accustomed formulas.

Let us now take up one by one a number of recent books on English grammar.

[1] See GERTRUDE BUCK, *The Sentence-Diagram*, *Educational Review*, March, 1897.

[2] T. R. SHEWELL & CO., second edition, 1901.

Harvey's *New English Grammar*,[1] a revision of an older book, begins with dry definitions. Such an introduction seems to the present writer to be very unwise; the young student is hardly asked or expected to do any thinking. The definitions of "orthography" and "etymology" (p. 13) are surprising; but the way in which they are plumped into the child's mind is the prime mistake. Surely the present grammatical usage calls those verbs "impersonal" which are here termed "unipersonal" (p. 124). The book has a thorough index to its grammatical nuggets.

The method of MacEwan's *Essentials of the English Sentence*[2] is well suggested in the following extract from the preface: "Positive, categorical statement of established elementary facts, with apt and abundant verification, is an economical method of reviewing as well as of communicating such facts." This dogmatic method is consistently observed. A prospective view of each section is given by an introductory chart, and a review is afforded by a summary at the close. MacEwan's book is based upon Whitney's *Essentials of English Grammar;* but it seems to the present writer that the most admirable feature in that excellent book was its inductive method. It is sufficiently clear to say, "A transitive verb expresses an action terminating on an object" (MacEwan, p. 45); but Whitney stimulates the student to think, and helps him to recognize that grammatical terms are conventional and often unsatisfactory, when he first presents a number of sentences in which the verbs take objects, and then says concerning them:

> A verb of [this] class is said to be a TRANSITIVE verb, or to be used TRANSITIVELY (*transitive* means "going over," that is, the action of the verb is fancifully said to "pass over" from the subject to an object) (p. 100).

The text-books of Miss Hyde and Professor Allen are intended to be used in the higher grades of grammar schools. Miss Hyde[3] combines much practice in composition with grammatical study. Her book is mainly inductive in its method; it seems to be the well-considered production of a skillful teacher.

Professor Allen's little work[4] is the briefest among those here reviewed. The study of composition and grammar at the same time is not attempted. The mode of presenting the subject is dogmatic; but the statements made are so clear, sane, and wisely put, that the evils of this method are very much mitigated. The judgment and discrimination of the pupil are appealed to. The statement concerning the nature of pronouns (p. 52) and the treatment of the subjunctive mood (pp. 143–6) may be especially commended. The treatment of what is sometimes called the potential mood will be discussed later.

The following extracts will give some idea of the book of Brown and De Garmo:[5]

[1] THOMAS W. HARVEY, *A New English Grammar*, 277 pp. American Book Co., 1900.

[2] ELIAS J. MACEWAN, *The Essentials of the English Sentence*, 310 pp. D. C. Heath & Co., 1900.

[3] MARY F. HYDE, *Practical English Grammar, with Exercises in Composition*, 328 pp. D. C. Heath & Co., 1900. (Book II of "A Two-Book Course in English.")

[4] EDWARD A. ALLEN, *A School Grammar of the English Language*, 168 pp. D. C. Heath & Co., 1900.

[5] GEORGE P. BROWN, assisted by CHARLES DE GARMO, *Elements of English Grammar*, 255 pp. Werner School Book Co., 1900.

The commanding purpose of Part I is: (1) to lead the pupils to distinguish between ideas and thoughts, and the words and sentences that express them; and (2) to show that the relations of words, phrases, and clauses in a sentence depend upon the relations between the ideas that form the thought which the sentence expresses (p. 8).

The *idea*, forests, is the picture that I form in my mind of large collections of trees. The *word*, forests, is the group of letters used in writing it, or the group of sounds used in speaking it (p. 25).

Much practice may be necessary in order to make clear the distinction between the object as perceived by the senses and the idea or notion of it that is retained in the mind (p. 12).

It seems to the present writer that the psychology imported into this grammar is sometimes harmful rather than helpful. The suggested exercises in discriminating between the word and its meaning would easily become as formal and lifeless as anything in the older methods of grammar-study. Is it either desirable or possible to be always making two bites of a cherry in this way? Do the authors do it themselves when they tell us that "a preposition always connects some object-word to some other word whose meaning the object-word modifies"? (P. 34.) It is the *meaning* of the object-word that modifies the meaning of the other word. Professor Kittredge says with truth in the preface of a book that we shall soon consider: "A studious effort to separate the *name* from the *thing named* may be important for the philosopher, but it is only baffling to the beginner. . . . . Surely there is no danger that the youngest child will ever mistake the word *apple* for the object which bears that name!"

The grammar of E. Oram Lyte[1] pays much attention to composition. In studying the sentence before the parts of speech the book agrees with a number of recent text-books. The present reviewer cannot believe that the elaborate, cabalistic systems of written analysis and written parsing which are much emphasized in this book represent wise methods of instruction.

Of the two books by John B. Wisely,[2] that entitled *Studies in the Science of English Grammar* is the more original and important. Its purpose is stated as follows:

It has been the purpose of the author to present suitable sentences, and to ask such questions upon them as will lead the student to construct the science of grammar for himself. To this end, all definitions and statements of facts of whatever kind have been studiously avoided, as depriving the student of so much mental activity as would be required in thinking them out for himself. . . . . There is no need of committing any law or principle of grammar from a text-book. The laws and principles which underlie the construction of sentences, are all embodied in sentences, and the student may study them directly, *first hand*, just as he studies the flower in botany or the rock in geology; and if he forget the rule, he has only to examine a few sentences and restate it for himself.

This book is certainly a very thoroughgoing attempt to teach English grammar inductively. Of course, the induction is carefully guided, and each one of the various problems is separated from irrelevant matter. The present writer believes that a skilful and patient teacher could achieve excellent results with this stimulating book; but it might be necessary to depart at various points from the ideal of the author. Indeed, it may be said that Mr. Wisely departs from the ideal himself by giving references under each subject to various school grammars of the usual type. The use of these references would result in the inductive study of grammars, not of grammar.

[1] *Advanced Grammar and Composition*, 368 pp., American Book Co., 1899.

[2] *Studies in the Science of English Grammar*, 185 pp.; *A New English Grammar*, 227 pp.; The Inland Publishing Co., Terre Haute, Ind.

The books of Brown and DeGarmo, and that of Wisely, insist that the assertive sentence is made up of three parts. Mrs. Mead[1] says very sensibly:

> One would naturally expect the sentence to correspond as to number of parts with the judgment which it expresses; but since we commonly find the copula and attribute combined in one symbol, as, The horse *runs* (= is *running*), it is convenient to include these two offices under the term predicate, and so to divide the sentence into two parts only." (P. 21.) Here and elsewhere Mrs. Mead wisely refuses to let the supposed demands of psychology and logic complicate and hinder the teaching of English grammar. The discussion of nouns (pp. 53–8), and what is said about the use and the danger of diagrams (pp. 236–7), are specimen portions of a helpful, judicious text-book.

Five books will now be considered which well represent the new emphasis upon the teaching of English grammar. The oldest one of these appeared in 1896. With the probable exception of the one by Kittredge and Arnold these grammars are all planned for use in the high school. All five aim to teach grammar and not composition. The full titles of the books in question are given below.[2]

[Professor] G. R. CARPENTER, *Principles of English Grammar*, x + 254 pp., The Macmillan Co., 1898.

HERBERT J. DAVENPORT and ANNA M. EMERSON, *The Principles of Grammar*, xiv + 268 pp., The Macmillan Co., 1898.

H. G. BUEHLER, *A Modern English Grammar*, viii + 300 pp., Newson & Co., 1900.

[Professor] GEORGE L. KITTREDGE and SARAH L. ARNOLD, *The Mother Tongue, Book II, An Elementary English Grammar*, xxii + 331 pp., Ginn & Co., 1900.

The so-called "potential mood" is a difficult matter to treat wisely and helpfully. Whitney's classification of the verb-phrases with *may*, *can*, *must*, *might*, *could*, *would*, *should*, and *ought to*, into potential, conditional, and obligative forms, or modes (*Essentials*, §§ 287–91), does not seem to the present writer to be really illuminating. It will be interesting to note how this matter is handled by the five books that are now before us. It will be best to omit from consideration the form *ought to*.

The book of Kittredge and Arnold is the only one of the five which does not attempt to discriminate in some way between the so-called "indicative use" and the "subjunctive use" of these auxiliaries. Baskervill and Sewell say: "*May* is used as either indicative or subjunctive, as it has two meanings. It is indicative when it expresses *permission*, or, as it sometimes does, *ability*, like the word *can*: it is subjunctive when it expresses doubt as to the reality of an action, or when it expresses wish, purpose, etc." (p. 160). Professor Carpenter speaks of certain uses of *may* as "equivalents of the subjunctive" (p. 134). Davenport and Emerson state that "the potential mood is omitted, because, if thought be adopted as the basis of classification, there is no room for a potential, all the forms which are commonly put in this mood naturally falling within the indicative or the subjunctive" (p. 88). Buehler assigns to the subjunctive mood in addition to the forms generally placed there, certain "phrasal subjunctives" (p. 249), formed by means of *may* and other auxiliaries. Kittredge and

[1] IRENE M. MEAD, *The English Language and its Grammar*, 277 pp., Silver, Burdett, & Co., 1896.

[2] [Professor] W. M. BASKERVILL and J. W. SEWELL, *An English Grammar*, 349 pp., American Book Co., 1896.

Arnold call all the forms with *may, can, must, might, could, would,* and *should,* "potential verb-phrases" (p. 283), and simply ask that the force of each phrase be pointed out in the sentence in which it occurs. In spite of the unfortunate use of the word "potential," this method of treating these expressions seems sensible and practical.

Professor Allen, in the book already mentioned, applies the term "modal auxiliaries" to *may, can, must, might, could, would,* and *should;* and gives a clear tabular statement of the different uses of each word. He would distinguish between the indicative and subjunctive uses of each auxiliary.

The subjunctive mood has so nearly died out of everyday English that it becomes a questionable and hazardous proceeding to give to "the subjunctive idea" a distinct metaphysical existence, and then to use this fictitious entity to conjure with. For most of the so-called subjunctive uses of the auxiliaries that we are now discussing, no regular subjunctive forms can possibly be substituted. The present writer is well satisfied with the term "modal auxiliaries" or "auxiliaries of mood" as a name for the seven words concerned; and he believes that the pupil should be able to point out the exact force of a verb-phrase made with one of these in any given sentence. Farther than this he would not go. In view of the fact that Professor Allen calls *may* indicative in "I may go" (= It is possible that I shall go) (p. 148), while Davenport and Emerson call it subjunctive (p. 89), it seems best not to raise the question at all in an ordinary grammar class. "If the righteous scarcely be saved, where shall the ungodly and the sinner appear?" At this point there is a good chance to lop off some "make-believe grammar."

The sensible "Introduction" of Baskervill and Sewell makes a favorable impression. Their grammar is both scholarly and practical. The section on "Words that Need Watching" is an excellent feature. It seems a questionable policy, however, to give up more than two-thirds of the book to a detailed study of the separate parts of speech before the treatment of the sentence is reached.

Professor Carpenter's grammar offers in Part I of its appendix probably the clearest and best elementary statement that exists concerning the nature and classification of English sounds, and the relation of the dictionary to standard pronunciation. This section is contributed by Professor E. H. Babbitt. Part V of the appendix contains a bibliography which will be of great service to teachers. This is the first school grammar to adopt from Sweet the helpful classification of verbs into consonant verbs (weak) and vowel verbs (strong). Professor Carpenter's independence of traditional grammar may be seen in his judgment that the sentence "Who did you see?" can scarcely be regarded as incorrect in colloquial English (p. 87). Minor points in this excellent book to which I object are: that the indirect object is named "the dative case" (pp. 63, 70); and that the auxiliary *be* is said to be used "in the future tenses of the active voice" (p. 130), as in the sentence "I am going to the city tomorrow." It seems to the present writer unwise to give two different names to the form *him*, and two different names to the form *am going* (*is, are going*). When *him* is used as the indirect object, that fact should be pointed out, and the same is true when *am going* has a future meaning; but is it not extremely desirable that each of these forms shall have a fixed name?

Davenport and Emerson seek to present the "principles of grammar" in such a way as to "avoid placing the teacher of foreign languages at cross purposes with the teacher of English — to the end that one instructor may not laboriously unteach what the other has as laboriously taught." The following words from the introductory

"note to the teacher" deserve to be placed on the wall of every room where instruction is given in English grammar:

> Do not insist greatly upon formal classifications; thought and not form is of leading importance. Welcome from the student the widest range of interpretation of the sentence under examination; the syntax may often assume several different aspects accordingly as [according as] the thought is capable of being conceived in different shades of meaning.
>
> Encourage the pupil to disagree with text-book and teacher, and to attempt on his own responsibility the making of generalizations. His habit of thought is of vastly greater importance than his conclusions. Doubtless there is danger of excess here, but likewise there is valuable opportunity for teaching the virtue of temperate disagreement (p. viii).

The present reviewer has found this book very sane and discriminating. Teachers will be helped by the appendix, where some questions are discussed more fully than was desirable in the body of the work.

The author of Buehler's *A Modern English Grammar* is himself engaged in the work of secondary instruction. The book begins with the study of the sentence, and the subject of sentence analysis is practically completed before the study of the parts of speech is taken up. Typographically this grammar is a model; and the illustrative sentences are so printed as to make clear through the eye the grammatical and logical relations that are to be brought out. This is accomplished without distorting the sentences, except in a few "diagrams." The prime intention of the few exercises in composition is to impress grammatical and logical distinctions upon the mind of the pupil. Buehler treats infinitives and participles as separate parts of speech. Will this prove to be a new application of the maxim "Divide and conquer"?

The Mother Tongue, Book II, of Kittredge and Arnold, is *An Elementary English Grammar*. Some points in this book have already been commented on. A marked characteristic is the presence of notes in fine type explaining some of the more striking facts of historical English grammar. This idea is an admirable one. Although the pupils are not expected to learn these paragraphs, it is often as easy to understand the real origin of an idiom as it is to form for one's self a vague and misleading conception of the matter. Good examples of these notes are found on pages 129, 163, 211. Many careful directions are given to teachers, suggesting how each portion of the work may best be taken up and the points at which reviews may profitably be made, and indicating the purpose of particular sections. The caution against supplying words for mere convenience in parsing (p. 191) is an instance of the careful way in which dangers are guarded against. The book seems a noteworthy combination of sound scholarship and skillful pedagogy.

Believing that "a rational investigation of the structure of English sentences is far more important than any other phase of grammar," Miss Kimball has written *The English Sentence*[1] "not to supplant any text-book in grammar, but rather to provide for a profitable continuation of grammar study in high schools and normal schools." This useful little work is devoted entirely to the analysis of sentences. Miss Kimball is discriminating, and while pointing out distinctions clearly, does not attempt to determine everything. The impossibility of always distinguishing between the infinitive in *-ing* and the participle of the same form is well brought out (p. 142).

[1] LILLIAN G. KIMBALL, *The Structure of the English Sentence*, vi + 244 pp., American Book Co., 1900.

The expressions "recasted sentences" (p. 14), and "I would have found" (p. 88), should be corrected.

It may be well, in conclusion, to speak of a few books of reference on English grammar. The *New English Dictionary* (the Clarendon Press), of which Vol. V has appeared, going through the letter K, is the great authority on the history of the meanings and forms of English words. Bain's *Higher English Grammar* (Holt & Co.) is a useful handbook; it has a full table of contents, but no index. Teachers who read German can find in Mätzner's great *Englische Grammatik* (3 vols., Berlin) the stores of material from which many shorter grammars have been made. The second volume of Storm's *Englische Philologie* (2d ed., in 2 vols., Leipzig, 1896) contains careful summaries of the important books upon present English usage, colloquialisms, vulgarisms, etc. The full index to all this material, and Storm's own judicious comments, make his compilation more useful for most purposes than the original works themselves. Incidental mention has already been made of Sweet's *New English Grammar* (Part I, 1891; Part II, 1898; the Clarendon Press). This striking work is commended to the attention of teachers. Since Sweet delights in discussing grammatical matters in an original way, and freely invents new terms when he feels in need of them, only those who are willing to do some thinking will be helped by this stimulating book.

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Italian Sculpture of the Renaissance. By L. J. Freeman. Size, 9 × 6 in.; 212 pages. Price, $3.00. New York: The Macmillan Company.

NOTES

THE Department of Superintendence, National Educational Association, will hold its annual meeting in Chicago, February 25, 26, and 27. The Auditorium Hotel has been selected as headquarters, and the meetings will be held in University Hall in the Fine Arts Building.

WE clip the following from the sixtieth report of the Massachusetts State Board of Education:

The high schools of the state number 261, with an attendance of about 40,000. The number of schools that kept the full 10 months required by law was 74; the number that kept from 9½ to 10 months, 124; from 9 to 9½ months, 54; less than 9 months, 9. Many schools that planned for 10 months fell short by two or three days only, and usually because of the closing of school for unanticipated reasons.

D. C. HEATH & CO., publishers, Boston, have in press, for immediate issue, Renan's *Souvenirs d'enfance et de jeunesse*, edited, with introduction and notes, by Irving Babbitt, instructor in French at Harvard University. This distinguished and interesting masterpiece will prove not alone interesting and valuable for purposes of intermediate and advanced classes in college, but to the cultivated general reader as well. It has also been recommended by the "Committee of Twelve of the Modern Language Association" for fourth year reading in high school French courses.

COLUMBIA'S NEW PRESIDENT.—We clip from the *School Journal* the following condensed educational biography. To this we may add a recognition of his vigorous and successful activity in the National Educational Association and as editor of the *Educational Review*.

Professor Butler has been associated with Columbia in one capacity or another for twenty-four years. He entered the college as an undergraduate in 1878, receiving the degree of B.A. in 1882 and that of Ph.D. in 1884. He was made an LL.D. by Syracuse University in 1898, and he has studied in Paris and Berlin. It was in 1886 that he became connected with the faculty of Columbia, having been appointed assistant in philosophy; he has held the chair of philosophy and education since 1890.

In the meantime he has been active in other educational fields; he was the first president of the New York College for the training of teachers, serving in that capacity from 1887 to 1991; he was president of the New Jersey State Board of Education from 1888 to 1890; he was special commissioner from New Jersey to the Paris Exposition in 1899; and he was the first secretary of the college of entrance examination board, the creation of which by the Association of Colleges of the Middle States and Maryland was in a large measure due to his efforts.